Search Report
EIC 3600

STIC Scientific and Technical Information Center

STIC Database Tracking Number:

To: Examiner Ann Loftus
Location: KNX 4A06
Art Unit: 3691
Date: Saturday, November 07, 2009
Case Serial Number: 10/812055

From: Ginger R. DeMille
Location: EIC3600
KNX 4B68
Phone: (571) 272-3522
Ginger.demille@uspto.gov

Search Notes

Dear Examiner Loftus:

Please find attached the results of your search for the above-referenced case. The search was conducted using the Business Methods Template databases, JSTOR, ProQuest, EBSCOhost and CiteSeer.

I have listed *potential* references of interest in the first part of the search results. However, please be sure to scan through the entire report. There may be additional references that you might find useful.

If you have any questions about the search, or need a refocus, please do not hesitate to contact me.

Thank you for using the EIC, and we look forward to your next search!

Note: EIC-Searcher identified "potential references of interest" are selected based upon their apparent relevance to the terms/concepts provided in the examiner's search request.

I. Potential References of Interest

A. Dialog

```
? t12/3,k/all

 12/3,K/1     (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2009 Thomson Reuters. All rts. reserv.

0015351723  - Drawing available
WPI ACC NO: 2005-701983/200572
Related WPI Acc No: 2005-701988
XRPX Acc No: N2005-576054
Method for calculating net present value of average spot
basket option, involves applying Black-Scholes formalism to
calculated moments of sum of spot values for all assets of basket, to
determine net present value
Patent Assignee: POETZSCH R H H  (POET-I)
Inventor: POETZSCH R H H
Patent Family (1 patents,  1 countries)
Patent                         Application
Number          Kind   Date    Number         Kind   Date    Update
US 20050222934   A1  20051006  US 2004812055    A  20040330  200572  B

Priority Applications (no., kind, date): US 2004812055  A  20040330

Patent Details
Number         Kind  Lan   Pg  Dwg  Filing Notes
US 20050222934   A1  EN    16    5
Method for calculating net present value of average spot
basket option, involves applying Black-Scholes formalism to
calculated moments of sum of spot values for all assets of basket, to
determine net present value

  Alerting Abstract ...NOVELTY - The first and second moments of the sum of
spot values for all assets of basket are calculated. The Black-
Scholes formalism is applied to the calculated moments, to determine
the net present value of the average spot basket options.
DESCRIPTION - An INDEPENDENT CLAIM is also included for system for
calculating net present value of average spot basket
option...

...USE - For calculating net present value (
NPV) of average spot basket option for derivative pricing
of assets...

...DESCRIPTION OF DRAWINGS - The figure shows a table illustrating the
results of determination of the NPV.

Original Publication Data by Authority
Argentina
```

Assignee name & address:
Original Abstracts:

A method and system of calculating a net present value of an average spot basket option is provided. The method includes calculating a first and second moment of a sum of spot values of all underlyings of a basket and applying a Black-Scholes formalism to the first and second moments to determine the net present value of an average spot basket option. The method further includes calculating a modified forward spot, a modified strike value, and first and second modified normal distribution functions for application in the Black-Scholes formalism. A system in accordance with the invention includes a memory that stores data that is exercised in connection with determining the net present value, a processor that executes code to determine the net present value in accordance with the a first and second moment of the sum of spot values of all underlyings of a basket and the application of a Black-Scholes formalism to the first and second moments to determine the net present value of the average spot basket option.

Claims:

1. A method of calculating a net present value of an average spot basket option, comprising: calculating a first moment of a sum of spot values Sj(ti) of all underlyings of a basket;calculating a second moment of the sum of spot values Sj(ti) of all underlyings of the basket, wherein the first and second moments are approximate log normal distributions; andapplying a Black -Scholes formalism to the first and second moments to determine the net present value of an average spot basket option.

B. Additional Resources Searched

http://mfs.rutgers.edu/MFJ/Abstracts/V07N12.html - Google Search

http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.136.3620 – Citeseer Search (citations for "The Performance of Analytical Approximations for the Computation of Asian Quanto-Basket Option Prices"

http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.52.5547 – Citeseer Search – "Pricing Asian Options: A Comparison of Analytical Monte Carlo Approaches"

http://citeseerx.ist.psu.edu/search?q=text%3A%28%22first+moment%22%29+and+%28%22second+moment%22%29++and+%28option+derivative%29+AND+year%3A%5B1800+TO+2004%5D&submit=Search&sort=cite – Citeseer Search – "First Moment" AND "Second Moment" AND "Option Derivative"

II. <u>Inventor Search Results from Dialog</u>

No inventor search results of interested obtained, except PBPub.

III. Text Search Results from Dialog

A. Full-Text Databases

```
? show files;ds
File  15:ABI/Inform(R) 1971-2009/Nov 06
         (c) 2009 ProQuest Info&Learning
File  16:Gale Group PROMT(R) 1990-2009/Oct 14
         (c) 2009 Gale/Cengage
File 148:Gale Group Trade & Industry DB 1976-2009/Oct 21
         (c) 2009 Gale/Cengage
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2009/Oct 08
         (c) 2009 Gale/Cengage
File 621:Gale Group New Prod.Annou.(R) 1985-2009/Sep 30
         (c) 2009 Gale/Cengage
File   9:Business & Industry(R) Jul/1994-2009/Nov 05
         (c) 2009 Gale/Cengage
File  20:Dialog Global Reporter 1997-2009/Nov 06
         (c) 2009 Dialog
File 610:Business Wire 1999-2009/Nov 07
         (c) 2009 Business Wire.
File 613:PR Newswire 1999-2009/Nov 06
         (c) 2009 PR Newswire Association Inc
File  24:CSA Life Sciences Abstracts 1966-2009/Nov
         (c) 2009 CSA.
File 634:San Jose Mercury  Jun 1985-2009/Oct 28
         (c) 2009 San Jose Mercury News
File 636:Gale Group Newsletter DB(TM) 1987-2009/Oct 14
         (c) 2009 Gale/Cengage
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File  13:BAMP 2009/Nov 05
         (c) 2009 Gale/Cengage
File  75:TGG Management Contents(R) 86-2009/Oct W2
         (c) 2009 Gale/Cengage
File  95:TEME-Technology & Management 1989-2009/Oct W2
         (c) 2009 FIZ TECHNIK
File 348:EUROPEAN PATENTS 1978-200945
         (c) 2009 European Patent Office
File 349:PCT FULLTEXT 1979-2009/UB=20091029|UT=20091022
         (c) 2009 WIPO/Thomson
File 625:American Banker Publications 1981-2008/Jun 26
         (c) 2008 American Banker
File 626:Bond Buyer Full Text 1981-2008/Jul 07
         (c) 2008 Bond Buyer
File 267:Finance & Banking Newsletters 2008/Sep 29
         (c) 2008 Dialog
File 268:Banking Info Source 1981-2009/Nov W1
         (c) 2009 ProQuest Info&Learning

Set     Items   Description
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S1          2   (PRICING OR COMPUTE OR COMPUTES OR COMPUTING OR CALCULAT? -
             OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND? OR GAUG??? OR I-
             DENTIFY??? OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATI-
             CAL?)(3W)(VALUATION)(6N)(OPTION(2W)DERIVATIVE? ? OR STRADDLE?
             ?)
S2          2   (PRICING OR COMPUTE OR COMPUTES OR COMPUTING OR CALCULAT? -
             OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND? OR IDENTIFY??? -
             OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATICAL?)(3W)(V-
             ALUATION OR NET()PRESENT()(VALUE? ? OR VALUATION? ? OR NPV))(-
             10N)(OPTION(2W)DERIVATIVE? ? OR STRADDLE? ?)
S3       1187   (CALCULAT??? OR FIGUR??? OR COMPUTE OR COMPUTES OR COMPUTI-
             NG OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND??? OR IDENTIF-
             Y??? OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATICAL?)(-
             8N)((FIRST OR 1ST OR INITIAL OR PRIMARY)(2W)MOMENT OR (SECOND
             OR 2ND OR SECONDARY)(2W)MOMENT)
S4    1130130   NPV OR (NET OR PRESENT)(2N)(VALUE OR VALUATION OR WORTH OR
             VALUES)
S5      92619   BLACK(3N)SCHOLES OR STOCHASTIC?
S6      15787   (RISKLESS OR RISK()FREE OR "NO"()RISK OR SAFE OR PROTECTED
             OR SECURE OR FROZEN OR LOCKED()IN OR FIXED)(2W)(INTEREST()RAT-
             E? ? OR FEE OR FEES)(S)(DIVIDEND OR PAYMENT? ?)
S7        594   INPUTS(10N)(CONTRACT OR MARKET OR EVALUATION)(2W)(DATA OR -
             INFORMATION OR DETAILS)
S8          0   S3 AND (S5 OR S6) AND S7
S9        111   S3 AND (S5 OR S6)
S10         9   S4 AND S9
S11        78   (S5 OR S6) AND S7
S12        89   S2 OR S10 OR S11
S13        11   S12 FROM 348,349
S14        78   S12 NOT S13
S15        26   S14 NOT PY>2004
S16        19   RD  (unique items)
S17        30   S13 OR S16
? t17/3,k/all
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 17/3,K/1   (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

04966979 589720941
Options: Old Question, New Answer
Luehrman, Timothy
Business Week (Online) PP: 1 Mar 26, 2004
JRNL CODE: BWOL
WORD COUNT: 1039

ABSTRACT: From an economic perspective, the binomial model is essentially identical to the Black-Scholes model for simple options. Both are based on the equilibrium concept of "no arbitrage" -- that is, at all times, stock and option prices must be...
...TEXT: decision has been discussed at length, less attention has been paid to an equally noteworthy potential outcome: FASB will recommend that companies jettison the venerable Black-Scholes model for determining the fair value of employee options. And the new method the FASB may recommend could have a profound impact on the valuations...

...the stock price and another to calculate corresponding option values, node by node.

From an economic perspective, the binomial model is essentially identical to the Black-Scholes model for simple options. Both are based on the equilibrium concept of "no arbitrage" -- that is, at all times, stock and option prices must be such that no instantaneous and riskless profit is available to traders. Both models also make equivalent assumptions about possible future movements in stock prices. However, Black-Scholes incorporates these assumptions into elegant mathematical expressions, which in turn imply the now-standard formula that gives an option's value.

REALISTIC FEATURES. In contrast...

...probabilities of death, disability, termination, premature exercise, and other factors.

These features do affect option values but are mostly impossible to reflect in the compact Black-Scholes formula. Prior accounting standards either ignored this problem or made sweeping, simplifying assumptions in order to apply a simple model (e.g., intrinsic value or Black-Scholes).

REAL-WORLD EFFECTS. The new standard pushes for a model that accommodates the complexities of real employee stock-option contracts and the real world. Practically...

...means a binomial lattice. We at S&P CVC have developed basic lattices for handling many features that are difficult or impossible to accommodate in Black-Scholes, including, for example:

-- The lengthy contractual life of the option-- Vesting schedules, including the accelerated vesting upon death or disability that's common in many...

...to answer some of the key questions surrounding the potential implementation of the new options-valuation model:
How different are the fair-value estimates for Black-Scholes with expected option life vs. a full binomial lattice?

A lattice-based model with realistic inputs regarding employee characteristics and capital-market data will generate fair-value estimates that differ significantly from Black-Scholes with expected option life. Just how great the difference depends on many factors, such as the demographics and exercise behavior of the employee population.

For...

...difference in estimated fair value will be significant. Its magnitude also depends greatly on what a given business has been using as its estimate within Black-Scholes for expected life and volatility.

We at S&P CVC have seen instances where companies obtain binomial values fully 50% lower than what had been previously estimated using Black-

Scholes with expected option life -- a big difference. But the
disparity would be less (or more) dramatic if the company had been using a
longer (or...

17/3,K/2 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02891390 834470701
ESTIMATING EXPECTED DEFAULT PROBABILITIES USING THE OPTION PRICING MODEL
Hung, Chih-Min
Journal of Financial Management & Analysis v17n2 PP: 60-72 Jul-Dec 2004
ISSN: 0970-4205 JRNL CODE: JFMA
WORD COUNT: 3554

...TEXT: asset value model originally proposed by Merton9. Merton developed the mode for pricing corporate liabilities by using an option approach that was extended from the Black-Scholes model. The concept of the Merton model is that a firm defaults when its market value falls below the value of its debts or a...

...default probability and called it the expected default frequency (EDF). This approach relying on the market value to estimate the firm's volatility that incorporates market information on default probabilities. However, many of the basic inputs to the model, the value of the firm, the volatility and the expected rate of return on the firm's assets, are difficult to observe...bonds. Finally, we compare differences in changes of expected default probabilities between bankrupt and survival firms.
Methodology Used

The Merton model (Merton9) that developed the Black-Scholes model (Black and Scholes14) is used to value the liabilities and equity of a firm. Its assumptions are shown as:

* Capital markets are perfect, with no transaction...Tokyo, 1998)

13. Miyoshi, M., Saikenkakuzuke to rironjou no sinyourisuku puremiamu nikansuru kenkyu (Bond rating and credit risk premium, in Japanese), Kinyukenkyu (November 1998)

14. Black, F. and Scholes, M., The pricing of options and corporate liabilities, Journal of Political Economy (81:1973)

15. Kwan, S., Firm-specific information and the correlation between individual...

17/3,K/3 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02551547 258366811
Editorial: Modelling credit spreads
Hatgioannides, John

Derivatives Use, Trading & Regulation v8n3 PP: 204-208 2002
ISSN: 1357-0927 JRNL CODE: DUTR
WORD COUNT: 1951

...TEXT: of the firm's equity.11-13 Furthermore, hedging in structural, Merton-type models is (at least theoretically) straightforward and follows the lines of classic Black and Scholes/Merton analysis.

On the negative side, the key disadvantage of structural models is that the firm value is not directly observable in practice. It is...its analytical tractability and the natural link to market-consistent term structure models.9 Observable prices of defaultable bonds in the market are taken as inputs, hence calibration to market data is more straightforward than in structural models. In a word, reduced form models are much better suited to 'fitting' the observed credit spreads than they ...

...and Patience17 even demonstrate that credit spreads of different corporate bonds of a single issuer and of the same seniority do not exhibit the same stochastic evolution over time. Finally, in Markov chain models credit spreads can only change when a rating change occurs. This is contrary to reality where changes...

...of the modelling approaches for credit risk, see Sch6nbucher, P J. (2000) 'Credit Risk Modelling and Credit Derivatives', http://www.finasto. unibonn.de/-schonbuc/.

2 Black E and Scholes, M. (1973) 'The Pricing of Options and Corporate Liabilities', Journal of Political Economy, Vol. 81, pp. 637-659.

3 Merton, R. C. (1974) 'On the...

...default time, and credit-migration models, which also seek to model migrations between credit rating classes.

11 Bensoussan, A., Crouhy, M. and Galai, D. (1995) 'Stochastic Equity Volatility and the Capital Structure of the Firm', in Mathematical Models in Finance, pp. 81-92. The Royal Society, Chapman and Hall.

12 Kijima...
...Finance and Economics Discussion Paper Series 1997/15, Board of Governors of the Federal Reserve System.

17 Hatgioannides, J. and Patience, H. (2002) 'On the Stochastic Evolution of Credit Spreads', Derivatives Use, Trading and Regulation, Vol. 8, No. 3, pp. 241-254.

18 Ransom B. J. (2001) 'Using Models in Managing...

17/3,K/4   (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02293712 82396401
Business value analysis: - coping with unruly uncertainty

Thomas, Russell
Strategy & Leadership v29n2 PP: 16 Mar/Apr 2001
ISSN: 1087-8572 JRNL CODE: PLR
WORD COUNT: 4772

...TEXT: options.

The real options technique is performed in four steps.

(1) Frame the analysis. Define the decision, sources of uncertainty, decision rule, and applicable financial market information.

(2) Implement the option valuation model. Establish inputs: current underlying asset value, time frame, leakage value, volatility, private risk, risk-free rate of return. Use an appropriate option calculator (Black-Scholes model or others) to derive the option value.

(3) Review the results. Does the analysis yield a clear decision?
(4) Consider redesigning the analysis, if...

17/3,K/5   (Item 5 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01407675 00058662
Hedging with derivatives
Smith, Pamela A; Bahrman, P Dean
Internal Auditor v54n2 PP: 68-75 Apr 1997
ISSN: 0020-5745 JRNL CODE: IAU
WORD COUNT: 2524

...TEXT: underlying is proportionately reflected in the value of the derivative; that is, the price movement is synchronized. The net exposure from the hedge is easily determinable.

The market valuation of other instruments, such as option-based derivatives, is more complicated because the relationship between the price of the derivative is not proportional to the change in the underlying. Furthermore, the value of...

17/3,K/6   (Item 6 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00976592 96-25985
What's driving options analytics?
Epstein, Chuck
Wall Street & Technology v12n6 PP: 28-33 Oct 1994
ISSN: 1060-989X JRNL CODE: WSC
WORD COUNT: 2049

...TEXT: until expiration.

Options pricing models must capture all these factors. These variables are

then evaluated according to a number of pricing models, including the original Black-Scholes model, which is used to determine the fair-market value of European-type call options. (European options must be held until expiration; by contrast, American...

...caps, collars and floors, plus variations on this genre, such as swaptions, and compound options.

Profit Opportunities For Modelers

Due to market acceptance of the Black-Scholes model and the dominance of European-style options in the OTC currency markets, options modeling in foreign currencies has now become very standard.

Because European options models use a modified Black-Scholes in which the inputs for volatility, rate and forward points are well understood, dealers often agree on price. This "commoditization" also has its drawbacks, especially...able to accommodate limited and readily available user inputs. The power of even the most sophisticated models is made moot if the user cannot obtain market data that can be used to describe the inputs. This highlights one very real advantage of using one-factor models. if any of these three considerations are violated, the model is likely to produce...

17/3,K/7 (Item 7 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00953821 96-03214
Risk-taking, global diversification, and growth
Obstfeld, Maurice
American Economic Review v84n5 PP: 1310-1329 Dec 1994
ISSN: 0002-8282 JRNL CODE: AER

DESCRIPTORS: Stochastic models...

ABSTRACT: An analysis develops a continuous-time stochastic model in which international risk-sharing can yield substantial welfare gains through its effect on expected consumption growth. The mechanism linking global diversification to growth...

...these 2 types of capital captures the idea that growth depends on the availability of an ever-increasing array of specialized, hence inherently risky, production inputs. Calibration exercises using consumption and stock-market data imply that most countries reap large steady-state welfare gains from global financial integration.

17/3,K/8 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

09417565 Supplier Number: 82556084 (USE FORMAT 7 FOR FULLTEXT)
Eastman donates coating technology to EMU's coatings research institute.
(Industry News).

The Journal of Coatings Technology, v74, n924, p24(1)
Jan, 2002
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 415

... 2000 and make it available for purchase or licensing agreements.
The calculated indications of value produced by TRRU metrics, based on the Noble Prize-winning Black-Scholes options pricing formula together with live market data and the user's own inputs, help companies make strategic resource allocation decisions for technology investments. It has also become a key aid when organizations seek to monetize their IP. TRRU...

17/3,K/9 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

09126609 Supplier Number: 79509323 (USE FORMAT 7 FOR FULLTEXT)
Eastman Chemical Company Donates Innovative Coating Technology To Eastern Michigan University.
PR Newswire, p5771
Oct 29, 2001
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 800

... can use pl-x tools to monetize their intellectual property."
The calculated indications of value produced by TRRU metrics, based on the Noble Prize-winning Black-Scholes options pricing formula together with live market data and the user's own inputs, help companies make strategic resource allocation decisions for technology investments. It has also become a key aid when organizations seek to monetize their IP. TRRU...

17/3,K/10 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

0020575665 SUPPLIER NUMBER: 116068339 (USE FORMAT 7 OR 9 FOR FULL TEXT)
An empirical study of structural credit risk models using stock and bond prices.
Ericsson, Jan; Reneby, Joel
Journal of Fixed Income, 13, 4, 38(12)
March, 2004
ISSN: 1059-8596 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 6516 LINE COUNT: 00599

... bonds.
In Ericsson and Reneby (2004), we evaluate this maximum-likelihood approach using several theoretical models and compare it to the traditional methods as in Black and Scholes (1973), Merton (1974), Leland and Toft (1996), and Briys and de Varenne (1997). The main finding is that

the ML method is less biased and...corporate bonds. Monte Carlo simulation shows this method to be superior to the commonly used alternative, yet it has to date not been applied to market data. We use as inputs to the estimation stock and bond prices, dividend yields, balance sheet, and risk-free term structure information. In addition, we set the recovery rates for...

17/3,K/11 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

12140671 SUPPLIER NUMBER: 61371578 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Integrating early sales with production decisions: analysis and insights.
WENG, Z. KEVIN; PARLAR, MAHMUT
IIE Transactions, 31, 11, 1051
Nov, 1999
ISSN: 0740-817X LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 8116 LINE COUNT: 00698

... maximize the expected profit and discuss a procedure for computing the probability that the realized value of the (random) profit will exceed its maximum expected value. We present qualitative results on the varying effects of joint decisions on increasing the expected profit and the probability of achieving or exceeding it. We also describe...A simple check reveals that when (n.sub.0) = (n.sub.1) = n, we get the standard result E((Y.sup.2)) = np.

Similarly, the second moment E((Y.sup.2)) can be computed and the variance of Y can be found as

Var(Y) = P{((n.sup.2).sub.0)p - 2(n.sub.0)((n.sub.1...Ph.D. in Management Sciences (1979) from the University of Waterloo, Canada. Mahmut Parlar's research program is focused in the areas of applications of stochastic modeling and dynamic optimization in operations management and more recently in computational finance. His work in these areas have appeared in the form of approximately...

17/3,K/12 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09043736 SUPPLIER NUMBER: 18782735 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Linking advertising to box office performance of new film releases - a marketing planning model.
Zufryden, Fred S.
Journal of Advertising Research, v36, n4, p29(13)
July-August, 1996
ISSN: 0021-8499 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 7495 LINE COUNT: 00622

... used to plan the advertising expenditures for a new product during the early phase of commercialization. In practice, these models have been implemented using data inputs from sources such as tracking studies, actual or simulated test market data, and early commercialization market-performance data.

In the model proposed here, we adopt a structure that is based on a

parsimonious framework which follows in...evaluate the adoption of film innovations which extends the Bass (1969) diffusion model framework by incorporating explanatory variables. However, the model is based on a stochastic framework that concentrates primarily on distribution strategy and the adoption of films but ignores advertising effects.

Other diffusion models have considered marketing variables but have...

34 (1988): 734-52.

Rogers, Everett M. Diffusion of Innovations. New York, NY: New York Free Press, 1962.

Sawhney, Mohanbir S., and Jehoshua Eliashberg. "A Stochastic Model for the Effect of Distribution Strategy on the Adoption of Innovations." Working paper, The Wharton School, University of Pennsylvania, 1992.

Shugan, Steve, and Jehoshua...

17/3,K/13 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08478541 SUPPLIER NUMBER: 17844123 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Good news, bad news, volatility, and betas. (covariances of stock returns)
Braun, Phillip A.; Nelson, Daniel B.; Sunier, Alain M.
Journal of Finance, v50, n5, p1575(29)
Dec, 1995
ISSN: 0022-1082 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10350 LINE COUNT: 00891

... and the conditional covariance matrix is the same order of magnitude as the unconditional covariance, using the unconditional means should have a minor effect in estimating the second moment matrix. Researchers have also found that omitting relatively slowly varying components of expected returns, for example riskless interest rates and dividends, has a very minor...Ball and Kothari.

It is also possible that an existing leverage effect in betas is obscured by our use of an EGARCH rather than a stochastic volatility model. Stochastic volatility models allow for an independent error term in the conditional variance equation. This inclusion of the error term permits realistic estimation of some standard continuous time problems.(20) Although Nelson (1994) finds that as one approaches a continuous time limit, multivariate ARCH models asymptotically approach stochastic volatility models: it is possible that a 1 month interval is not sufficient to approach this limit. Therefore, the recent work of Jacquier, Polson, and ...

...could not produce as large asymmetries as those implied by common EGARCH parameter estimates. A full resolution of these issues would require the estimation of stochastic volatility models with time-varying betas.

Our results also indicate that the bivariate EGARCH model may be useful in other contexts which we have not...asymmetric model of changing volatility in stock returns, Journal of Financial Economics 31, 281-318.

Campbell, J., and R. Shiller, 1987, Cointegration and tests of present value models, Journal of Political Economy 95, 1062-1088.

Chamberlain, G., 1983, Funds, factors, and diversification in arbitrage pricing models, Econometrica 51, 1305-1323.

Chamberlain, G...

...markets, Econometrica 51, 1281-1304.
Chan, K. C., 1988, On the contrarian investment strategy, Journal of Business 61, 147-163.
Christie, A. A., 1982, The stochastic behavior of common stock variances: Value, leverage and interest rate effects, Journal of Financial Economics 10, 407-432.
Cox, J. C., J. E. Ingersoll, and...tests of asset pricing models, Journal of Financial Economics 24, 289-318.
Jacquier, E., N. G. Polson, and P. E. Rossi, 1994, Bayesian analysis of stochastic volatility models, Journal of Business & Economic Statistics 12, 371-389.
Jacquier, E., N. G. Polson, and P. E. Rossi, 1995, Priors and models for multivariate stochastic volatility, working paper, Cornell University.
Kodde, D. E., and F. C. Palm, 1986, Wald criteria for jointly testing equality and inequality restrictions, Econometrica 54, 1243...

...The capital formation problem in the United States, Journal of Finance 40, 677-687.
Melino, A., and S. Turnbull, 1990, Pricing foreign currency options with stochastic volatility, Journal of Econometrics 45, 239-266.
Merrill Lynch, Pierce, Fenner, and Smith, Inc., 1990, Security Risk Evaluation.
Merton, R. C., 1980, On estimating the...

17/3,K/14 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

06505815 SUPPLIER NUMBER: 14333335 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Petroleum property valuation: a binomial lattice implementation of option pricing theory.
Pickles, Eric; Smith, James L.
Energy Journal, v14, n2, p1(26)
April, 1993
ISSN: 0195-6574 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 7819 LINE COUNT: 00613

... recognized; the difficulty has been to find the value in quantitative terms. A theoretical basis for the pricing of stock options was first published by Black and Scholes (1973). Numerous papers have subsequently explored this subject and extended the analysis to the pricing of options on financial instruments and derivative securities of various...

...from capturing option-like characteristics of petroleum investments that are hard to evaluate using conventional DCF methods, the option valuation technique makes efficient use of market information and minimizes reliance on subjective and arbitrary data inputs, as the illustrations in Paddock, Siegel, and Smith (1988) demonstrate. For example, there is no need to forecast oil prices, or to employ risk-adjusted...

...s advantage in situations where regulations regarding land tenure permit such delay. Much of the theoretical work, moreover, relies upon concepts in the field of stochastic calculus and requires a degree of mathematical sophistication unlikely to be found in many of those to whom the results are potentially a matter of...Note that if the percentage change is normally distributed the distribution of actual prices will be lognormal. These characteristics imply a generalized Wiener process, a stochastic process that is described as geometric Brownian motion.

Figure 2. Binomial Lattice Calculations for A Four-Period Model ($/bbl)

Period 0 1 2 3 4...P., and S. Ekern (1990). "Managing Investment Opportunities under Price Uncertainty: From Last Chance to Wait and See Strategies." Financial Management 19(3): 65-83.

Black, F., and M. Scholes (1973). "The Pricing of Options and Corporate Liabilities." Journal of Political Economy 81 (May/June): 637-654.

Brealey, Richard A., and Stewart C. Myers (1988...

17/3,K/15 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01666109 SUPPLIER NUMBER: 15048948 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Take stock of your finances: investment software. (Software Review)
(includes related article on investment strategy) (Evaluation)
Gilliland, Steve
Computer Shopper, v14, n3, p512(6)
March, 1994
DOCUMENT TYPE: Evaluation ISSN: 0886-0556 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 4201 LINE COUNT: 00349

... lets you evaluate long and short calls, puts, and straddles; its Advanced partner offers long and short puts, calls, and hedges, as well as the Black-Scholes option pricing model, which Q-West claims uses the most sophisticated equations for determining the value of a call option in modern finance. Those who...a three-day increase in a security's price and volume.

Obviously, technical-analysis packages like AIQ and Dow Jones must rely heavily on current market information. Both depend on online services for daily inputs of market data.

The Bottom Line

In the end, of course, all decisions are up to you: It's your money, and you--not your PC or your...

17/3,K/16 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R)

04032666 Supplier Number: 149213485 (USE FORMAT 7 OR 9 FOR FULLTEXT)
How quickly should you liquidate your vested stock?

Financial Services Review, v 11, n 1, p 65

March 2002
DOCUMENT TYPE: Journal
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 8038

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...while retaining the notation of the set-up based on the number of shares. Note that the main differences between the two versions are the stochastic process assumption (normal in price vs. normal in returns) and the form of the impact functions (cost defined as a known function of returns instead...

...formulations: a general power function, which is uncorrelated with the price process, with some of its special cases (e.g. linear, square root), and a stochastic linear impact function correlated with the price process. The latter case allows for a feedback loop, whereby a significant drop in returns (prices) can cause...case where the permanent impact affected the equilibrium return through the total of sales, and not in each interval. Here that reduction is zero.

5. Stochastic market impact correlated with returns

The specification in this section is designed to attempt to capture a systemic feedback loop where, as prices and realized...

...without the correlated term was T = 0.0833, which was equivalent to 1 month.

Here the case where (theta) = 0 is equivalent to the non-stochastic linear case. One common feature of all the results is that, for all correlations levels, the optimal liquidation time attains a minimum at some level...

...individual tries to minimize. Despite its mathematical complexity, the model is quite easy to use as it offers closed-form solutions for certain parameterizations. The inputs can be easily estimated from general stock market data. For closely held stocks, they can be assessed with significant accuracy with a help of an investment banker specializing in private placements.

Appendix A

In...sigma).sup.2)(v.sup.2)

(7.) First apply Definition (5) to get:

(MATHEMATICAL EXPRESSION NOT REPRODUCIBLE IN ASCII.)

and then simply evaluate the non-stochastic integrals.

(8.) To derive the variance we need to evaluate the following expression:

(MATHEMATICAL EXPRESSION NOT REPRODUCIBLE IN ASCII.)

We can split the inside integral...

17/3,K/17 (Item 1 from file: 613)
DIALOG(R)File 613:PR Newswire

00665766 20011029LAM029 (USE FORMAT 7 FOR FULLTEXT)
Eastman Chemical Co. Donates Innovative Coating Technology
PR Newswire
Monday, October 29, 2001 06:03 EST
JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 779

TEXT:
...can use pl-x tools to monetize their intellectual
property."
The calculated indications of value produced by TRRU metrics, based on
the
Noble Prize-winning Black-Scholes options pricing formula
together with live
market data and the user's own inputs, help companies
make strategic resource
allocation decisions for technology investments. It has also become a key
aid
when organizations seek to monetize their IP. TRRU...

17/3,K/18 (Item 1 from file: 13)
DIALOG(R)File 13:BAMP

00540795 Supplier Number: 23851778 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Hedging With DERIVATIVES
(While some 80% of private firms see derivatives as key to their respective
risk management strategies, a whole new set of risks are also created by
derivatives)
Article Author(s): Bahrman, P Dean; Smith, Pamela A
Internal Auditor, p 68-75
April 1997
DOCUMENT TYPE: Journal; Guideline ISSN: 0020-5745 (United States)
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2776

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...underlying is proportionately reflected in the value of the derivative;
that is, the price movement is synchronized. The net exposure from the
hedge is easily determinable.

The market valuation of other instruments, such as option
-based derivatives, is more complicated because the relationship

between the price of the derivative is not proportional to the change in the underlying. Furthermore, the value of...

17/3,K/19 (Item 2 from file: 13)
DIALOG(R)File 13:BAMP

00510891 Supplier Number: 23565199 (USE FORMAT 7 OR 9 FOR FULLTEXT)
LINKING ADVERTISING TO BOX OFFICE PERFORMANCE OF NEW FILM RELEASES--A MARKETING PLANNING MODEL; Part 1 of 2 Parts
(A new model approach is created to examine the market performance of new film releases as a function of advertising)
Article Author(s): Zufryden, Fred S
Journal of Advertising Research, v 36, n 4, p 29-41
July 1996
DOCUMENT TYPE: Journal ISSN: 0021-8499 (United States)
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2768

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...used to plan the advertising expenditures for a new product during the early phase of commercialization. In practice, these models have been implemented using data inputs from sources such as tracking studies, actual or simulated test market data, and early commercialization market-performance data.
In the model proposed here, we adopt a structure that is based on a parsimonious framework which follows in...

...evaluate the adoption of film innovations which extends the Bass (1969) diffusion model framework by incorporating explanatory variables. However, the model is based on a stochastic framework that concentrates primarily on distribution strategy and the adoption of films but ignores advertising effects.

Other diffusion models have considered marketing variables but have...

17/3,K/20 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

02230927
COMPUTER PROCESSING METHOD, AND PROGRAM
COMPUTERVERARBEITUNGSVERFAHREN UND PROGRAMM
METHODE ET PROGRAMME DE TRAITEMENT INFORMATIQUE
PATENT ASSIGNEE:
Yahoo Japan Corporation, (7796690), Roppongi Hills Mori Tower 10-1, Roppongi 6-chome, Minato-ku,Tokyo 106-6182, (JP), (Applicant designated States: all)
INVENTOR:
BRODY, Julian,c/o Yahoo Japan Corporation, Roppongi Hills Mori Tower, 10-1, Roppongi 6-chome, Minato-ku, Tokyo 1066182, (JP)

BRODY, Dorje, Blackett Laboratory, Imperial College,, London SW72AZ, (GB)
LEGAL REPRESENTATIVE:
Muller-Bore & Partner Patentanwalte (100651), Grafinger Strasse 2, 81671 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1903493 A1 080326 (Basic)
WO 2006134998 061221
APPLICATION (CC, No, Date): EP 2006766751 060615; WO 2006JP312017 060615
PRIORITY (CC, No, Date): JP 2005176854 050616
DESIGNATED STATES: DE; GB
EXTENDED DESIGNATED STATES: AL; BA; HR; MK; YU
INTERNATIONAL CLASSIFICATION (V8 + ATTRIBUTES):
IPC + Level Value Position Status Version Action Source Office:
G06Q-0040/00 A I F B 20060101 20080125 H EP
G06Q-0010/00 A I L B 20060101 20080125 H EP
G06Q-0090/00 A I L B 20060101 20080125 H EP
ABSTRACT WORD COUNT: 143
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200813	2921
SPEC A	(English)	200813	10368
Total word count - document A			13289
Total word count - document B			0
Total word count - documents A + B			13289

...ABSTRACT entropy method. There are provided an input device (101) into which arbitrarily set information is inputted, a market (102) which is the source of various market information, a calculator (103) which receives various inputs, performs the calculation processing of the present invention and issues an output instruction, an interface (104) which collects information from the market and inputs it...
NOTE:

...SPECIFICATION calculation processing for determining risk-neutral probability distribution with the use of a maximum entropy method, according to the present invention, will be described below.

(Black-Scholes model)
With the use of a model in accordance with the geometric Brownian motion advocated by an economist, Paul Samuelson, a concept that a price ...

...a derivative exists which is determined by a risk-neutral probability without depending on the trend of the underlying asset price was introduced by Fischer Black and Myron Scholes in 1973. By specifically showing that the price of a derivative product (a derivative) the payment amount of which depends on the future stock price ...

...of the underlying asset), with the use of a model, they changed the conventional way of thinking completely (for example, see Patent Document 1).

Specifically, Black and Scholes used the following stochastic differential equation as a model indicating the temporal development of a stock price St)):

dS t S t = rdt + sigma * dW t *

where Wt)) * denotes...

...neutral probability distribution, and r denotes an interest rate considered to be constant, and sigma denotes the volatility of the stock price.

According to the Black-Scholes model, the price of a European call option, for example, can be determined as the following simple expected value dependent on the interest rate r...

...denotes an expected value under the risk-neutral probability measure.

As described above, from the viewpoint of the concept of the risk-neutral probability, the Black-Scholes model can be said to be a model in which a random component in a changed portion relative to the current value of a stock...

...Therefore, it is three variables of the current value of the stock price, the interest rate, and the volatility that must be specified in the Black-Scholes stock price model. In the procedure for actually determining the price of an option, a volatility variable is fixed first, and then, such a probability...

...payment amount at the maturity of the option contract is calculated with the use of the determined probability distribution.

The result is the so-called "Black-Scholes option evaluation formula". Therefore, this formula also depends on the maturity of the option contract and the exercise price in addition to the current stock...

...price data, it is impossible to accurately determine the current and future volatility. However, it is necessary to determine some volatility value to use the Black-Scholes evaluation formula.

As a method for setting this variable, a method called an implied volatility as shown below is commonly used. That is, by specifying the variables such as the maturity and the exercise price in the Black-Scholes evaluation formula and examining the quotation of the option price in a similar transaction actually performed in the market, backward counting of a volatility value...

...already existing in the market is used on the basis of examination of the market.

Though such an implied volatility is used to use the Black-Scholes evaluation formula, this is accompanied by some problems. If the implied volatility is determined with the use of the market price of an option with...

...also, a different value is obtained.

One reason is that the price of the option actually transacted in the market is not determined by the Black-Scholes model. However, a more basic problem is that the constant volatility assumed in the Black-Scholes model does not describe actual stock price fluctuation.

Accordingly, when an implied volatility which is obtained by using the

Black-Scholes formula and data of option prices corresponding to various exercise prices in transactions performed in the market is determined for a particular maturity (that is...

...a trader quotes the price of an option, he generally uses an implied volatility value on the volatility surface. By substituting the value in the Black-Scholes formula, an actual price is determined.

(Application of Black-Scholes model)

The most important point in the Black-Scholes formula is that an arbitrage opportunity is not given. Furthermore, according to the Black-Scholes model, there is an advantage that hedge means which eliminates risk is specifically determined. On the other hand, the Black-Scholes model, in which commission is not considered and the volatility is constant, is not a model which correctly describes the actual market, and therefore, investment banks and hedge funds in the world have extended the Black-Scholes model to evaluate derivatives.

A great number of extended Black-Scholes models exists. As a method for numerically introducing such a model, there is a method of extending the model into a binomial tree model or...

...an evaluation method. Algorithmic Trading in Canada and The MathWorks (MATLAB) in U.S. are representative enterprises. All of these evaluation devices mainly use the Black-Scholes model, an extended Black-Scholes model, a binomial tree model, or a volatility model obtained by extending the model, and depend on a model which indicates temporal development of an...the option product immediately falls a prey to other rivals.

In summary, the model indicating the temporal development of an underlying asset, such as the Black-Scholes model, is not a model which describes an actual price fluctuation, at all, and as a result, it is not possible to avoid a loss...

...a derivative product without necessity of special knowledge.

Non-patent Document 1: "<NPLCIT ID=NCIT0001 NPL-TYPE=S> Journal of Political Economy, 81, 637-659" (Black & Scholes, 1973 </NPLCIT>)

Non-patent Document 2: "<NPLCIT ID=NCIT0002 NPL-TYPE=S> A Perfect Calibrations) Now What?, Technical Report, Katholike Universiteit of Leuven" (W. Schoutens...the solid-line curve in <FIGREF IDREF=F0007>Figure 7</FIGREF>, while the graph of the option price determined from probability distribution obtained by the Black-Scholes model under the same conditions is shown by a broken line for comparison. Specifically, the option price C0))=0.9524, a condition for determining the probability distribution in <FIGREF IDREF=F0004>Figure 4</FIGREF>, is the price of "At the Money" option with a volatility of 30% in the Black-Scholes model. By calculating the risk-neutral probability distribution with the condition and determining the option price based thereon, the broken-line curve in <FIGREF IDREF...

...obtained.

As shown in <FIGREF IDREF=F0007>Figure 7</FIGREF>, it is seen that the result obtained by this example is relatively close to the Black-Scholes model.

Thus, it is possible to obtain a hedge strategy (delta), and thereby, it is possible to find a correct hedge strategy and effectively achieve ...

17/3,K/21 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01983604
Analysis of at least one sample on basis of two or more techniques
Analyse mindestens einer Probe anhand zweier oder mehr Techniken
Analyse d'au moins un echantillon a base d'au moins deux techniques
PATENT ASSIGNEE:
F. HOFFMANN-LA ROCHE AG, (1107064), Grenzacherstrasse 124, 4070 Basel, CH\(Applicant designated states: , DE)
Roche Diagniostics GMBH, (4912630), Sandhofer Strasse 116, 68305 Mannheim , DE\(Applicant designated states: , AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IS; IT; LI; LT; LU; MC; NL; PL; PT; RO; SE; SI; SK; TR)
INVENTOR:
Garczarek, Ursula, Kochelerstrasse 46, 83671 Benediktbeuern, (DE)
Kubalec, Pavel, Wielingerstrasse 22, 82340 Feldafing, (DE)
Hosel, Wolfgang, Caesar-v.Hofacker-Streasse 10, 82327 Tutzing, (DE)
LEGAL REPRESENTATIVE:
Jordan, Volker Otto Wilhelm (88051), Weickmann & Weickmann Patentanwalte Postfach 860 820, 81635 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1598666 A1 051123 (Basic)
APPLICATION (CC, No, Date): EP 2005008815 050421;
PRIORITY (CC, No, Date): EP 20049709 040423
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IS; IT; LI; LT; LU; MC; NL; PL; PT; RO; SE; SI; SK; TR
EXTENDED DESIGNATED STATES: AL; BA; HR; LV; MK; YU
INTERNATIONAL PATENT CLASS (V7): G01N-030/86; G06F-017/00
ABSTRACT WORD COUNT: 87
NOTE:
Figure number on first page: 14

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200547	6393
SPEC A	(English)	200547	37767
Total word count - document A			44160
Total word count - document B			0
Total word count - documents A + B			44160

...SPECIFICATION proposals in the foregoing allows and explicitly provides to treat all singles or measurement values in all dimensions explicitly as variates, i.e. random or stochastic variables. This reflects applied measuring procedures generally more correctly than treating e.g. a respective quantitative measurement quantity (e.g. ion intensity) as variate on...of the r-th power of the difference of the random variable to its first moment.

The location of the density of some distribution is determined by the first moment, the shape by the following higher-order

central moments. The more moments are equal, the more alike distributions are.

Illustrative examples
In the following some...

...number of the last data point added as candidate member to a respective group of data points forming a peak and rounded average m/z value. In the present case, after the first scan, there are two groups each including one candidate member or two peaks formed each by one candidate data point, namely...

17/3,K/22 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01756629 **Image available**
SYSTEM, METHOD AND PROGRAM FOR AGENCY COST ESTIMATION
SYSTEME, PROCEDE ET PROGRAMME POUR UNE ESTIMATION DE COUT D'AGENCE
Patent Applicant/Assignee:
ITG SOFTWARE SOLUTIONS INC, 400 Corporate Pointe, 6th Floor, Culver City, California 90230, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
BORKOVEC Milan, 92 W. Springfield Street, #4, Boston, Massachusetts 02118 , US, US (Residence), US (Nationality), (Designated only for: US)
MADHAVAN Ananth, 45 W. 60th Street, #30A, New York, New York 10023, US, US (Residence), US (Nationality), (Designated only for: US)
ASRIEV Artem V, 7 James Street, Winchester, Massachusetts 01890, US, US (Residence), US (Nationality), (Designated only for: US)
HEIDLE Hans, c/o Investment Technology Group, Inc., 380 Madison Avenue, 4th Floor, New York, New York 10017, US, US (Residence), DE (Nationality), (Designated only for: US)
Legal Representative:
TOLLEFSON Brian A et al (agent), Rothwell, Figg, Ernst & Manbeck, P.C., 1425 K Street, N.W., Suite 800, Washington, District Of Columbia 20005, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 2008153909 A1 20081218 (WO 08153909)
Application: WO 2008US7083 20080605 (PCT/WO US2008007083)
Priority Application: US 2007924904 20070605; US 2007929929 20070718
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AO AT AU AZ BA BB BG BH BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DO DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ NA NG NI NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LT LU LV MC MT NL NO PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English

Filing Language: English
Fulltext Word Count: 18692

Fulltext Availability:
Detailed Description

Detailed Description
... In ACE(R), the user can define the weight on risk. To allow for this, ACE(R) formulates the trading problem as a multi-period stochastic control problem. The solution to this stochastic control problem is the optimal strategy that minimizes the weighted sum of price impact and opportunity costs. ACE(R) provides the expected costs and standard...

...ticker symbol, cusip, exchange) closing price, volatility, and trading volume. At step 205, estimations are calculated for the customer's set of parameters and system inputs based on the most recent market data. At step 206, the results are displayed to the customer as a table of expected costs and standard deviation of costs for different RAP values...

...costs for a user-specified weights on cost and risk, and trading horizon. It does so by expressing the trading problem as a multi-period stochastic control problem. It then calculates the expected cost and the standard deviation of the cost for the resulting optimal strategy.
[0059] The execution cost is...

...considered as simply an average value of total cost if the execution could be repeated many times, since the total execution cost C is a stochastic or random variable rather than a deterministic value or number. This is so because total execution cost is subject to a large number of unknown...

...day. Such an effect is usually called a permanent price impact. The market price is also affected by other factors that are captured in a stochastic disturbance term. Of course, both the temporary price impact and the permanent price impact increase with the number of shares traded within a bin.

[0074...

...horizon and the average execution price for the order. Since there are both deterministic and random factors involved in the dynamic analysis, execution costs are stochastic in nature and should be analyzed by statistical methods. Further, given the multi-period nature of the optimization control problem, the analysis also requires the use of stochastic dynamic programming.
[0075] FIG. 3 provides an illustration to the above-described concepts and terms.

The temporary and permanent price impact applies to both single... microstructure models that derives equilibrium security prices when traders have asymmetric information. In Bertsimas and Lo, the authors introduce a price impact model and apply stochastic dynamic programming to derive trading strategies that minimize the expected costs of executing a portfolio of securities over a fixed time period. Breen,

Hodrick and...

17/3,K/23 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01728996 **Image available**
FUEL OFFERING AND PURCHASE MANAGEMENT SYSTEM
SYSTEME DE GESTION D'OFFRE ET D'ACHAT DE CARBURANT
Patent Applicant/Assignee:
GOLDMAN SACHS & CO, 85 Broad Street, 11th Fl., New York, New York 10004, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
KIRCH Michael, 433 W21 Street, Apt. 4A, New York, New York 10011, US, US (Residence), DE (Nationality), (Designated only for: US)
SHARFMAN Daniel, 227 Mulberry Street, Apt. 3H, New York, New York 10012, US, US (Residence), US (Nationality), (Designated only for: US)
SANGHVI Saurabh H, 248 E 31st Street, Apt. 1A, New York, New York 10016, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
HANCHUK Walter G (agent), Chadbourne & Parke LLP, 30 Rockefeller Plaza, New York, NY 10112, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 2008124789 A2-A3 20081016 (WO 08124789)
Application: WO 2008US59790 20080409 (PCT/WO US2008059790)
Priority Application: US 2007910816 20070409; US 2007733178 20070409; US 2007733191 20070409; US 2007733192 20070409; US 2007733193 20070409; US 2007733199 20070409; US 2007733198 20070409; US 2007733197 20070409; US 2007733200 20070409
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AO AT AU AZ BA BB BG BH BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DO DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ NA NG NI NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LT LU LV MC MT NL NO PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 47383

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... matrix generator 125 operates on the parameters it receives from real-time market parameter generator 108 and market history analyzer 115

in accordance with a stochastic model of the dynamics of the market 110. In one implementation, the product matrix generator 125 may consider some of the market variables and/or other input parameters in Fig. 4A and discussed below. Product matrix generator 125 may solve a stochastic differential equation to provide a commodity volatility model based on the input parameters.

[0040] In one embodiment, the matrix generator 125 is configured to solve stochastic differential equations for market models using parameters provided by real-time market parameter generator 108 and market history analyzer 115. Among other parameters provided by...

...between a retail fuel spot price and a wholesale fuel spot price. Matrix generator 125 processes the spot price spread information in accordance with a stochastic model. In embodiments of the Fuel Offering Generator, the matrix generator 125 is further configured to process retail fuel forward curve parameters in accordance with a stochastic model. The retail forward curve parameters may be provided by the market history analyzer 115. In another embodiment of the Fuel Offering Generator, the matrix...

...parameter generator 108 and from market history analyzer 115. Product matrix generator 125 processes and analyzes the information to provide a solution for the adapted stochastic differential equation. Product matrix generator 125 may be coupled to price information generator 130 and configured to provide the solution thereto. Based upon the solution ...

...the parameters related to current market conditions are analyzed 123. In one embodiment of the Fuel Offering Generator, the analyzing step is carried out by stochastic modeling. Price information for the fuel offering is generated 143. In one embodiment of the Fuel Offering Generator, price sensitivity information related to the fuel...

...Figure 3A, a combined logic and data flow diagram is shown illustrating one implementation of the financial structure model. A pricing module 301 receives as inputs fuel market information 303, historical analysis 305, and offering parameters 310. Details surrounding the nature of these inputs, including examples thereof, and of pricing module operation, will be...Fuel Offering Generator operation. Figure 4A shows processing flow for pricing of offerings in one embodiment of Fuel Offering Generator operation. A collection of module inputs 401 may comprise current fuel market information 403, historical fuel market information and/or analysis 405, and observable 410 and non-observable 415 parameters derived therefrom. Some examples of possible current fuel market information 403 may include...

...module 301 for processing. Inputs are incorporated into an offering pricing model 425 such as, in one implementation, a commodity volatility model incorporated into a stochastic differential equation describing commodity value. An example of such a model is provided in U. S. Patent No. 7,065,475 entitled, "Modeling Option Price...

...providing a fuel purchase incentive with the sale of a vehicle," filed May 11, 2001, are each incorporated in their entirety by reference. Solving a stochastic differential equation to extract output

offering parameters may be accomplished by a variety of techniques in different embodiments, such as but not limited to grid...

Claim
... the fuel price is a service markup price.

140 64. The method of claim 59, wherein the commodity volatility model is based on a 141 stochastic differential equation.

142 65. The method of claim 59, wherein the pricing simulation is based on grid pricing.

143 66. The method of claim 59...252 commodity type.

253 109. The method of claim 88, wherein the commodity offering pricing model 254 comprises a commodity volatility model described by a stochastic differential equation.

255 110. The method of claim 109, wherein the commodity volatility model described 256 by a stochastic differential equation is manifested in a Monte Carlo simulation.

257 111. The method of claim 109, wherein the commodity volatility model described 258 by a stochastic differential equation is manifested in a grid-pricing scheme.

259 112. The method of claim 109, wherein the commodity volatility model described 260 by a stochastic differential equation is manifested in at least one analytic formula.

261 113. The method of claim 88, wherein the setting at least one commodity offering...

...solution as an input into a pricing simulation.

384 153. The method of claim 152, wherein the commodity volatility model is based on a 385 stochastic differential equation.

386 154. The method of claim 152, wherein the pricing simulation is based on grid 387 pricing.

388 155. The method of claim...

...525 commodity type.

526 212. The method of claim 191, wherein the commodity offering pricing model 527 comprises a commodity volatility model described by a stochastic differential equation.

528 213. The method of claim 212, wherein the commodity volatility model described 529 by a stochastic differential equation is manifested in a Monte Carlo simulation.

530 214. The method of claim 212, wherein the commodity volatility model described 531 by a stochastic differential equation is manifested in a grid-pricing scheme.

532 215. The method of claim 212, wherein the commodity volatility model described 533 by a stochastic differential equation is manifested in at least one analytic formula.

534 216. The method of claim 191, wherein the setting at least one commodity offering...691 commodity type.

692 272. The method of claim 251, wherein the commodity offering pricing model 693 comprises a commodity volatility model described by a stochastic differential equation.
694 273. The method of claim 272, wherein the commodity volatility model described 695 by a stochastic differential equation is manifested in a Monte Carlo simulation.

696 274. The method of claim 272, wherein the commodity volatility model described 697 by a stochastic differential equation is manifested in a grid-pricing scheme.

698 275. The method of claim 272, wherein the commodity volatility model described 699 by a stochastic differential equation is manifested in at least one analytic formula.

700 276. The method of claim 251, wherein the setting at least one commodity offering...

...849 commodity type.

850 330. The method of claim 309, wherein the commodity offering pricing model 851 comprises a commodity volatility model described by a stochastic differential equation.

852 331. The method of claim 330, wherein the commodity volatility model described 853 by a stochastic differential equation is manifested in a Monte Carlo simulation.

854 332. The method of claim 330, wherein the commodity volatility model described 855 by a stochastic differential equation is manifested in a grid-pricing scheme.

856 333. The method of claim 330, wherein the commodity volatility model described 857 by a stochastic differential equation is manifested in at least one analytic formula.

858 334. The method of claim 309, wherein the setting at least one commodity offering...

...993 commodity type.

994 381. The method of claim 360, wherein the commodity offering pricing model 995 comprises a commodity volatility model described by a stochastic differential equation.

996 382. The method of claim 381, wherein the commodity volatility model described 997 by a stochastic differential equation is manifested in a Monte Carlo simulation.

998 383. The method of claim 381, wherein the commodity volatility model described 999 by a stochastic differential equation is manifested in a grid-pricing scheme.

1000 384. The method of claim 381, wherein the commodity volatility model described 1001 by a stochastic differential equation is manifested in at least one analytic formula.

1002 385. The method of claim 360, wherein the setting at least one commodity offering...

...1142 commodity type.

1143 436. The method of claim 415, wherein the commodity offering pricing model 1144 comprises a commodity volatility model described by a stochastic differential equation.

1145 437. The method of claim 436, whereindescribed 1146 by a stochastic differential equation is manifested in a Monte Carlo simulation.
1147 438. The method of claim 436, wherein the commodity volatility model described 1148 by a stochastic differential equation is manifested in a grid-pricing scheme.

1149 439. The method of claim 436, wherein the commodity volatility model described 1150 by a stochastic differential equation is manifested in at least one analytic formula.

1151 440. The method of claim 415, wherein the setting at least one commodity offering...

...1317 commodity type.

1318 499. The method of claim 478, wherein the commodity offering pricing model 1319 comprises a commodity volatility model described by a stochastic differential equation.

1320 500. The method of claim 499, wherein the commodity volatility model described 1321 by a stochastic differential equation is manifested in a Monte Carlo simulation.

1322 501. The method of claim 499, wherein the commodity volatility model described 1323 by a stochastic differential equation is manifested in a grid-pricing scheme.

1324 502. The method of claim 499, wherein the commodity volatility model described 1325 by a stochastic differential equation is manifested in at least one analytic formula.

1326 503. The method of claim 478, wherein the setting at least one commodity offering...

...1463 commodity type.

1464 553. The method of claim 532, wherein the commodity offering pricing

model 1465 comprises a commodity volatility model described by a stochastic differential equation. 1466 554 The method of claim 553, wherein the commodity volatility model described 1467 by a stochastic differential equation is manifested in a Monte Carlo simulation.

1468 555. The method of claim 553, wherein the commodity volatility model described 1469 by a stochastic differential equation is manifested in a grid-pricing scheme.
1470 556. The method of claim 553, wherein the commodity volatility model described 1471 by a stochastic differential equation is manifested in at least one analytic formula.

1472 557. The method of claim 532, wherein the setting at least one commodity offering...

17/3,K/24   (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01375966   **Image available**
AUTOMATED TRADING PLATFORM
PLATEFORME COMMERCIALE AUTOMATISEE
Patent Applicant/Assignee:
  CLEARSIGHT SYSTEMS INC, 3655-131st Ave. SE, Suite 602, Bellevue, WA 98006, US, US (Residence), US (Nationality), (For all designated states except: US)
Inventor(s):
  KOHN Wolf, 5721 South Eddy$Seattle, WA, US, (Designated for all)
  BRAYMAN Vladimir, 8407 SE 69th Place$Mercer Island, WA, US, (Designated for all)
Legal Representative:
  BERGSTROM Robert W (agent), Olympic Patent Works PLLC, P.O. Box 4277, Seattle, WA 98194-0277, US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200658041 A2-A3 20060601 (WO 0658041)
  Application: WO 2005US42397 20051123 (PCT/WO US2005042397)
  Priority Application: US 2004630822 20041123
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
  DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR
  KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG
  PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC
  VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
  PL PT RO SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 12101

Fulltext Availability:
Detailed Description

Detailed Description
... obtain by using individual models,
The basis of embodiments of the present invention is to model uncertainty using differential geometry. The concept starts with a stochastic differential equation and solves a piecewise diffusion equation with impulses. Unlike the Black-Scholes fonnula, we are not limited to the linear Gaussian case. Our internal model is based on a general predictor-corrector algorithm derived from the appropriate...

...the dynamics of the portfolio, which is a piecewise diffusion process (PDP) [6]. We consider the price and risk of n stocks.

We let the stochastic process x(t) be an n x 1 vector for the price trajectory and u(t) be an m x 1 vector for volume trajectory...

...the Automated Trading Platform forecasts the price trajectory in the Short-Tenn Price Forecaster, and controls the volume trajectory in the Controller, based on the stochastic model in (1). The form of this model is bilinear in price x(t) and volume u(t), which reflects their 30 interdependence and lack of causality. This stochastic model is the foundation of the Short-Term Price Forecaster and the Controller. In the Controller, we let the volume trajectory be impulses at times Tk and characterize the stochastic process x(t) with the following PDP
P
dx(t) o + Y, Djfj (t) x (t) dt
j=1
+ Cf(t)dt + O(t)dt...

...explains why the market does not behave as a Gaussian model -because it has discontinuities.

The difference between a PDP model as opposed to a Black-Scholes diffusion model is magnified when considering a real-time system with a sampling interval of 0. I milliseconds. Consider the current system which is using...

...16/1014 would have a similar impact). The model that represents an embodiment of the present invention can appropriately account for these impulses, whereas a Black-Scholes model will artificially create volatility because of the incorrect assumption of a diffusion process.

Another consequence of the PDP model is the opportunity to take...

...frequency analyses. This implies that we should first predict the dominant frequency and then forecast the phase to utilize our model at another level.
The stochastic process o)(t), which drives the price variation x(t), represents uncertainty in our model, and is assumed to be a Semi-Martingale (6). This stochastic process co(t) represents the inherent uncertainty due to the market environment and the accuracy of the model. We let (p(t) be an n x 1 vector, representing the average

value of the perturbation introduced by the market. The stochastic process co(t) has zero mean, is of bounded quadratic variation, and has an n x n covariance matrix function Q(t). We assume that...

...in the subgroups of the portfolio. The voting schema significantly improves the reliability of the forecasts.

3.3 Asynchronous Filter Bank
The Asynchronous Filter Bank inputs are equity and market
data. The data
consists of the following items: ask price, bid price, sale price and volume for each equity and aggregated market data. Nominally, the data items should...Clearsight team.

The main idea is to use the following version of Bayes'rule
Pl'"Pars)P(Pars)
P(ParsIX) -- @k--Al Pars is a stochastic process whose sample paths record conditional estimates of the parameters for the filtration generated by the process X. The Parameter Adaptation Engine generates the first and second moments of the stochastic process defined by (2
1).

The process Pars is sampled at regular time intervals T. During each interval T the conditional expectation (the first moment...

...W 0+EAjui(t)+EDjfj(t) X~(t)+Bu(t)+Cf(t)+b(t),
i=1 j
- I
where 5(t) is a zero-mean stochastic process with covariance
(t) if i -j
Ry(t) - A data
0 otherwise
that models the observation error.

We write the observation model for the...

...diagonal elements given in equations (26) and (27). The covariance matrix Q(tk) is computed by finding the trace of the covariance matrix of the stochastic process P(t) -At).
Tr (E[(P(t)
p(t))(P(t)
p(t))T]) = Tr(ELD(t)pT(t)
p(t)pT(t)
p...

...same value, so it is only necessary to store a single value to represent
@w
3 3 Estimation Method for 0(t) in PAE
The stochastic equation for parameters is
dp(t) = 0 + dv(t)
1 0 where dv(t) is a zero mean Gaussian Brownian process with covariance
Q(t...

...identified, q.

The discrete observation model is given by

-I(tk) =P Qk)P(tk + ON
I
where ON) is a zero mean discrete Gaussian stochastic measurement noise with covariance RN) and rl(tk) and P (tk) are defined later. The covariance matrix
1 5 R(tk)i is an (n...

...measurement process for p(t) is written as
&40 - O(Odt = P (t)p (t) dt + dO (t)
where dOQ) is a zero mean Gaussian stochastic measurement noise with covariance R(t)dt. The noise 0(t) is due to the noise in measuring price. The covariance matrix
R(t)'is...

...Continuous Forecast Engine
(possibly one second).

Assuming the parameters are constant over short intervals, we specify the dynamics of the parameter system by the following stochastic differential equation
dp(t) = 0 + dv(t)
where the OqxI column vector indicates that @Q) is constant over the interval of interest, and dv(t...

17/3,K/25 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01280950 **Image available**
COMPUTATION OF RADIATING PARTICLE AND WAVE DISTRIBUTIONS USING A GENERALIZED DISCRETE FIELD CONSTRUCTED FROM REPRESENTATIVE RAY SETS
CALCUL DES DISTRIBUTIONS DE PARTICULES ET D'ONDES RAYONNANTES AU MOYEN D'UN CHAMP DISCRET GENERALISE CONSTRUIT A PARTIR D'ENSEMBLES DE RAYONS REPRESENTATIFS
Patent Applicant/Inventor:
HOLLAND Richard Andrew, 394 Beachley Hill Road, Somerset, PA 15501, US, US (Residence), US (Nationality), (Designated for all)
Legal Representative:
RUEST Pamela A (agent), McQuaide, Blasko, Schwartz, Fleming & Faulkner, Inc., 811 University Drive, State College, PA 16801-6699, US
Patent and Priority Information (Country, Number, Date):
Patent: WO 200586665 A2-A3 20050922 (WO 0586665)
Application: WO 2005US5835 20050224 (PCT/WO US2005005835)
Priority Application: US 2004790404 20040301
Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU MC NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 16857

Fulltext Availability:
Detailed Description

Detailed Description
... be simulated through algorithms.

Therefore, such computational algorithms can provide the necessary depth dose distributions without laborious manual calculations.

For many years, Monte Carlo or stochastic methods have been used to determine 1 0 particle transport in three dimensions. Such computational methodologies for particle and wave simulations are used in a...

...1 000 fold speed advantage of the instant invention.

DETAILED DESCRIPTION OF THE INVENTION
Monte Carlo tracks each discrete particle history exactly and develops a stochastic result using hundreds of millions (if not billions) of exact particle histories (E. Cashwell & C.

Everett, The Practical Manual on the Monte Carlo Method for...

...approximate discrete particles, high accuracy is achieved through the use of many phase space particles. Single multipliers are employed within the LVG, providing direct non-stochastic results very quickly.

The fundamental difference between this method and a classic Green's Function Approach [R.D. Lawrence and J.J. Doining, A Nodal...7, 5), or continuing to traverse to LVG surface boundary for further particle transport (Fig. 7, 4). One may generate a ray set through a stochastic process for single collision interaction modeling (Cashwell et al., supra). One may also use direct integration of particle distributions over appropriate solid angle domains to directly compute appropriate ray set geometry factors.

These factors may be analytically, semi-analytically or stochastically derived as part of a precomputation (Fig. 7, 2AI). They are then used with the appropriate discrete angular group AD frequencies associated with a particular...

...of appropriate particle transport equations for inline (Fig. 7, 2) computation of discrete particle LVG ti-anspoit multipliers. A
20
preferred method is to utilize stochastic methods with extremely large sample sizes for large regular polyhedron grid systems with many surfaces and overlay ray set lengths upon LVGs.

For irregular grids...

...As such, the most general approach to solving pre-computed ray set

frequencies and lengths is Monte 1 5 Carlo. While this reverts to a stochastic process, one must remember that the computation is off-line and does not involve attenuation - hence material properties are irrelevant. The geometric properties obtained are...
...volumes with their particular distribution as one set. Those particles emanating through an LVG surface are cosine distributed within angular groups A92 and forrn the second moment set.

However, as mentioned previously in the Figure 6 description, one can use the precomputed set for nodes on one side of an LVG boundary, and totally different scheme, such 5 as ray...results comparisons for this problem setup are presented in Figure 14.

Figure 14
Preliminary Planer Interaction Rate Results. This graphic depicts the results of the present invention (middle values) compared to a high particle count Monte Carlo (top values) with percent relative differences (low cell percentage values) for each 103 cell. Results are presented...

17/3,K/26 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01122458 **Image available**
METHOD FOR DETECTION AND RECOGNITION OF FOG PRESENCE WITHIN AN AIRCRAFT COMPARTMENT USING VIDEO IMAGES
PROCEDE DE DETECTION ET DE RECONNAISSANCE DE LA PRESENCE DE BROUILLARD DANS UN COMPARTIMENT D'AERONEF EFFECTUE A L'AIDE D'IMAGES VIDEO
Patent Applicant/Assignee:
SIMMONDS PRECISION PRODUCTS INC, 100 Panton Road, Vergennes, VT 05491, US , US (Residence), US (Nationality)
Inventor(s):
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SHIRER Jeffrey James, 456 Round Barn Road, Ferrisburg, VT 05456, US,
ZELIFF Robert Lowell, 2209 East Street, Bridport, VT 05734, US,
Legal Representative:
MUIRHEAD Donald W (et al) (agent), Choate, Hall & Stewart, Exchange Place, 53 State Street, Boston, MA 02109, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200444683 A2-A3 20040527 (WO 0444683)
Application: WO 2003US35243 20031105 (PCT/WO US03035243)
Priority Application: US 2002424287 20021106; US 2003502099 20030911
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 122504

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... a minimum number of neighboring pixels; a mean
28
norm of intensity gradient vector for all pixels in said portion; and a norm of the second order moment matrix calculated over all pixels in said portion. A fire condition may be determined if any one of the plurality of features crosses an associated threshold.

Different...minimum number of neighboring pixels; a mean 1 5 norm of intensity gradient vector for all pixels in said portion; and a norm of the second order moment matrix calculated over all pixels in said portion. A fire condition may bedetermined if any one of the plurality of features crosses an associated threshold. The computer ...data flow of the method steps of
Figure 41;
52
Figure 43 is an example of an embodiment of a rectangular-shaped cargo bay
area;
Figures 44, 45A, 45B and 45C are examples of embodiment of different pixel
connectivities;
Figure 46 is a flowchart of steps of one embodiment for detection... inputs provided to the image compensation routine 202. The local fusion routine 212 may process the feature data 208 to determine whether a fire is present and/or to determine the likelihood of a fire being present. The processing performed by the local fusion routine 212 is discussed in more detail...

...may be used. Because indicators of a fire may be in a statistical difference of subsequent frames-differences caused by real phenomena other than noise, stochastic techniques may be used with the system described herein. Among such methods, histogram processing may be used given its simplicity and effectiveness in
69
capturing...

...of a background image. As can be seen from the graph 300, the energy generally increases with time in the case of a fire being present. The energy values calculated at the feature extraction routines 206, 206' , 206". may be provided to the corresponding local fusion routine 212, 212', 212"and/or the multi...leaf), the signal evolves from one resolution to the next. An embodiment may utilize the I 0 tree structure to describe many classes of multiscale stochastic processes and images such as Markov random fields and fractional Brown

motions.

The tree representation may be used in connection with a coarse to fine ...techniques that may be referred to as the ZOA or zero-order approximate filter as described in D. T. Magill, "Optimal adaptive estimation of sampled stochastic processes", IEEE Transactions on Automatic Control, vol. 10, 435439, 1965; and D. G. Lainiotis, "Partitioning: a unifying framework for adaptive systems, 1 5 I: estimation...

Claim
... and connected to a minimum number of neighboring pixels; mean norm of intensity gradient vector for all pixels in said portion; and norm of the second order moment matrix calculated over all pixels in said portion. 271. The method of Claim 270, wherein a fire condition is determined if any one of the plurality of...

...to a minimum number of neighboring pixels; a mean norm of intensity gradient vector for all pixels in said portion; and a norm of the second order moment matrix calculated over all pixels in said portion. 308. The computer program product of Claim 307, wherein a fire condition is determined if any one of the...

17/3,K/27 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01077297 **Image available**
SYSTEM AND METHOD FOR ESTIMATING AND OPTIMIZING TRANSACTION COSTS
SYSTEME ET PROCEDE D'ESTIMATION ET D'OPTIMISATION DES COUTS D'UNE TRANSACTION
Patent Applicant/Assignee:
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Inventor(s):
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ASRIEV Artem V, 7 James Street, Winchester, MA 01890, US,
Legal Representative:
DELUCA Vincent M (et al) (agent), Rothwell, Figg, Ernst & Manbeck, P.C., 1425 K Street, N.W., Suite 800, Washington, DC 20005, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 2003107122 A2-A3 20031224 (WO 03107122)
Application: WO 2003US18500 20030612 (PCT/WO US03018500)
Priority Application: US 2002166719 20020612
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 8312

Fulltext Availability:
Detailed Description

Detailed Description
... symbol, cusip, exchange) closing price, volatility, and trading volume. At step 205, the program calculates estimations for the customer's set of parameters and system inputs based on the most recent market data. At step 206, the results are displayed to the customer as a table of expected costs and standard deviation of costs for different RAP values...
...telling ACE the fraction of the order to be completed by mid-horizon. It does so by expressing the trading problem as a multi-period stochastic control problem. It then calculates the expected cost and the standard deviation of the cost for the resulting optimal strategy. This strategy is recommended for...

...costs for a user-specified weights on cost and risk and trading horizon.

It does so by expressing the trading problem as a multi-period stochastic control problem. It then calculates the expected cost and the standard deviation of the cost for the resulting optimal strategy.

[0025] The execution cost is...

...end of day i
[0031] ThemeanorexpectedcostECmaybeconsideredassimplyanaveragevalue of total cost if the execution could be repeated many times, since the total execution cost C is a stochastic or random variable rather than a deterministic value or number. This is so because total execution cost is subject to a large number of unknown...
...clicking on a "calculate" button on the user interface. The software program will display ACE estimates for the user's set of parameters and system inputs based on the most recent (e.g., real time) market data.

[0044] 2. The user accesses the Risk Frontier screen. A table is presented with values of EC and SD for different values of RAP. The...

17/3,K/28 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01004309 **Image available**
METHOD AND SYSTEM FOR PRICING FINANCIAL DERIVATIVES
PROCEDE ET SYSTEME PERMETTANT DE FIXER LE PRIX D'INSTRUMENTS FINANCIERS DERIVES
Patent Applicant/Assignee:
SUPERDERIVATIVES INC, c/o Holland & Knight LLP, 195 Broadway, New York, NY 10007, US, US (Residence), US (Nationality), (For all designated

states except: US)
Patent Applicant/Inventor:
GERSHON David, 4 Sloan Gardens, London SW1 W8DL, GB, GB (Residence), IL (Nationality), (Designated only for: US)
Legal Representative:
YONAY Guy (et al) (agent), Eitan, Pearl, Latzer & Cohen-Zedek, 2 Gav Yam Center, 7 Shenkar St., POB 12688, Herzlia 46733, IL,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200334297 A1 20030424 (WO 0334297)
Application: WO 2001IB1941 20011013 (PCT/WO IB0101941)
Priority Application: WO 2001IB1941 20011013
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM EE
ES FI GB GD GE HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 16925

Fulltext Availability:
Detailed Description

Detailed Description
... result of a negative option price. Clearly, this method does not emulate the way American style Vanilla options are priced in real markets.

3
The Black-Scholes model (developed in 1975) is a widely accepted method
for valuing options. This model calculates a probability-based theoretical value (TV), which is commonly used of the asset generally 5 follows a Brownian motion, as is known in the art. Using such Brownian motion model, known also as a stochastic process, one may calculate the theoretical price of any type of financial derivative, either analytically, as is the case for the exotic options discussed above... option are taken into account. The end results of each such path are summarized and lead to the theoretical price of the derivative.

The original Black Scholes model is designed for calculating theoretical prices for Vanilla options. However, it should be understood that any reference in this application to the Black- Scholes model refers to use of any model known in the art for calculating theoretical prices of options, e.g., a Brownian motion model, as applied ...of evaluating the theoretical price of an option using a Monte Carlo method based on historical data. The simulation method of the '662 patent uses stochastic historical data with a predetermined distribution function in order to evaluate the theoretical price of options. Examples is the '662 patent are used to illustrate that this method generates

results which are very similar to those obtained by applying the Black

4

Scholes model to Vanilla options. Unfortunately, methods ...major event, such as risk of war, or during and after a financial crisis.

It is appreciated by persons skilled in the art that the Black-Scholes model is a limited approximation that may yield results very far from real market prices and, thus, corrections to the Black-Scholes model must generally be added by traders. In the foreign exchange (FX) Vanilla market, for example, the market trades in volatility terms and the translation to option price is performed through use of the BlackScholes formula. In fact, traders commonly refer to using the Black-Scholes model as "using the wrong volatility with the wrong model to get the right price".

In order to adjust the price, in the Vanilla market... The phrase "market price of a derivative" is used herein to distinguish between the single value produced by some benchmark models, such as the Black-Scholes model, and the actual bid and offer prices traded in the real market. For example, in some options, the market bid side may be twice the Black-Scholes model price and the offer side may be three times the Black-Scholes model price.

Many exotic options are characterized by discontinuity of the payout and, therefore, a discontinuity in some of the risk parameters near the trigger(s). This discontinuity prevents an oversimplified model such as the Black-Scholes model from taking into account the difficulty in risk-managing the option. Furthermore, due to the peculiar profile of some exotic options, there may be significant transaction costs

5

associated with re-hedging some of the risk factors. Existing models, such as the Black-Scholes model, completely ignore such risk factors.

Many factors may be taken into account in calculating option prices and corrections. (Factor is used herein broadly as...assessment of the risk management cost of the option and of the compensation required by a trader in trading the option.

In contrast to the Black-Scholes model, which is a probabilistic model, the approach

13

of the present invention is based on determining what ...the goals of the models are referred to as building blocks.

The model of the present invention takes into account many factors that the Black-Scholes model ignores, e.g., factors that are related to transaction cost of rehedging. For example, in the model described herein, the re-hedging cost of...adjusted mid-market price is defined as the middle (i.e. the average) between the bid price and the offer price. As discussed above, the Black-Scholes model provides one price that may be referred to as theoretical mid-market price or theoretical value (TV). The adjusted mid-market price provided by the present invention may be regarded as an adjustment to the Black-Scholes price. Thus the

14

adjusted mid-market price of the present invention may also be referred to as the corrected theoretical value (...of mid-market price as a reference for the computations is preferred simply because existing theoretical models for calculating prices of options, such as the Black Scholes model, are typically intended for calculating theoretical mid-market values.

The bid/offer spread, computed according to the preferred embodiment, reflects the risk that is...to Fig. 1, at stage II 0 the model calculates a theoretical value (TV) using a combination of known algorithms, e.g., based on the Black-Scholes model, or any model assuming that spot undergoes a Brownian motion pattern. This initial TV may be computed in an analytical method or using numerical calculations, as are known in the art. The Black Scholes model is used in an exemplary embodiment because it is a common benchmark in the industry for pricing derivatives in cases where the underlying asset is assumed to follow a Brownian motion (a stochastic process). The inputs for the TV may include expiration date, class of the option, e.g., knock out, knock in, binary, European digital, etc., strike...market information is based on assets that are continuously traded in the market and their prices are
16
available in different forms. For example, the inputs may be based on information taken from screens of market data provided by companies such as REUTERS, Bloomberg, Telerate, etc., and/or directly from brokers, e.g., over the telephone.

Block 14 indicates the computation of the theoretical value (TV) of the option 5 being priced. The algorithm for computing the TV may be based on Black-Scholes or similar models consisting of analytic formulas or simulation methods as are known in the art. In some cases, for example, When computing double knock...and a corresponding Vanilla option with the same strike. TV(exotiq) is the theoretical value of the original exotic 20 option as calculated by the Black-Scholes model. TV(Vanilla) is the theoretical value of the corresponding Vanilla option, i.e. the option with the same parameters except for the triggers. Ratio...weighted corrections to the TV, in accordance with the invention, is partly based on the realization by the inventors that models such as 5 the Black-Scholes model underestimate the probability of reaching a far spot level when time to maturity is long. In reality, the probability for a far knock out is generally higher than that anticipated by the Black-Scholes formula. This is part of the reason for the decay of most of the factors with time to maturity beyond a certain level. This type...correct adjusted mid-market price for the exemplary 10 options computed. It is also evident from Table I that the TV calculated based on the Black-Scholes model does not yield correct results.

Referring to Example I in Table 1, the option traded on February 12, 1999, has an expiration date of...114.40, the volatility for this option is 17.35, the forward for this option is 86, the theoretical value (TV) calculated based on the Black-Scholes model is 0.38, and the corresponding Vanilla option price and bid/offer spread are 2.7 and 0.25,

respectively. Table I also presents...

17/3,K/29 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00865245 **Image available**
TARIFF GENERATION, INVOICING AND CONTRACT MANAGEMENT
FORMATION DE TARIFS, GESTION EN MATIERE DE FACTURATION ET DE CONTRAT
Patent Applicant/Assignee:
JIMMI LIMITED, Seal Bkr, Chartered Accountants, 137 Vincent Street, Auckland, NZ, NZ (Residence), NZ (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
YOUNG Simon Venn, 7 Tole Street, Ponsonby, Auckland, NZ, NZ (Residence), NZ (Nationality), (Designated only for: US)
PHILPOTT Andrew Bryan, 87 Old Mill Road, Westmere, Auckland, NZ, NZ (Residence), NZ (Nationality), (Designated only for: US)
Legal Representative:
HAWKINS Michael Howard (et al) (agent), Baldwin Shelston Waters, P.O. Box 852, Wellington, NZ,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200198787 A2 20011227 (WO 0198787)
Application: WO 2001NZ116 20010622 (PCT/WO NZ0100116)
Priority Application: NZ 505358 20000622
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 10458

Fulltext Availability:
Detailed Description

Detailed Description
... 1 . Client constraints
2. Location constraints
3. End user preferences for supplier or energy source e.g. non nuclear power 4. End user preferences for contract details like payment type.
These constraints will be secondary inputs into the invention and not an integral part of it.

The optimiser then transmits the sell rate tariff values, back to the end user 0...fe(t)l(t) + cl(t)x(t, co) + (d(t, w) - c(t))[x(t, c1(t)] +J.

This gives the following two-stage stochastic optimisation problem.

minimise 24 [e(t)1(t) + ;T(co)(d(t, co) - c(t))y(t, co)
subject to 1(t) + Y(t, co...

17/3,K/30 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00846413 **Image available**
METHOD AND SYSTEM FOR PRICING OPTIONS
PROCEDE ET SYSTEME DE TARIFICATION D'OPTIONS
Patent Applicant/Assignee:
SUPERDERIVATIVES INC, c/o Holland & Knight LLP, 195 Broadway, New York, NY 10007, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
GERSHON David, 4 Sloan Gardens, London SW1 W8DL, GB, GB (Residence), IL (Nationality), (Designated only for: US)
DAGAN Orik, 47 Harama Street, Ganey Tikva, IL, IL (Residence), IL (Nationality), (Designated only for: US)
LEVY Yuval, 99 Walmington Fold, London N12, GB, GB (Residence), IL (Nationality), (Designated only for: US)
Legal Representative:
BRENENSON Chanah S (et al) (agent), Darby & Darby P.C., 805 Third Avenue, New York, NY 10022-7513, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200180131 A1 20011025 (WO 0180131)
Application: WO 2001US12264 20010413 (PCT/WO US0112264)
Priority Application: US 2000197622 20000413
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM EE
ES FI GB GD GE HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 13373

Fulltext Availability:
Detailed Description

Detailed Description
... into existence offly when the underlying asset's price reaches the trigger. There are many other tYpes of exotic options known in the art. The Black-Scholes model (developed in 1975) is a widely accepted method for valuing options. This model calculates a probability-based theoretical value (...the rate of the asset generally follows a Brownian motion, as is known in the art. Using such Brownian

motion model, known also as a stochastic process, one may calculate the theoretical price of any type of financial derivative, either analytically, as is the case for the exotic options discussed above, or numerically. The original Black Scholes model is designed for calculating theoretical prices for Vanilla options. However, it should be understood that any reference in this application to the Black-Scholes model refers to use of any model known in the art for calculating theoretical prices of options, e.g., a Brownian motion model, as applied to any type of option, including exotic options.

It is appreciated by persons skilled in the art that the Black-Scholes model is a limited approximation that may yield results very far from real market prices and, thus, corrections to the Black-Scholes model must generally be added by traders. In the foreign exchange (FX) Vanilla market, for example@ the market trades in volatility terins and the translation to option price is performed through use of the Black-Scholes formula. In fact, traders commonly refer to using the Black-Scholes model as "using the wrong volatility with the wrong model to get the right price".

In order to adjust the price, in the Vanilla market...

...strike.

The phrase "market price of a derivative" is used herein to distinguish between the single value produced by some benclunark models, such as the Black-Scholes model, and the actual bid and offer prices traded in the real market. For example, in some options, the market bid side may be twice the Black-Scholes model price and the offer side may be three times the Black-Scholes model price.

Many exotic options are characterized by discontinuity of the payout and, therefore, a discontinuity in some of the risk parameters near the trigger...

...profile of some exotic options, there may be significant transaction costs associated with re-hedging some of the risk factors.

Existing models, such as the Black-Scholes model, completely ignore such risk factors.
Many factors may be talcen into account in calculating option prices and corrections.

(Factor is used herein broadly as...assessment of the risk management cost: of the option and of the compensation required by a trader in trading the option. In contrast to the Black-Scholes model, which is a
1 1
probabilistie model, the approach of the present invention is based on determining what corrections must be added to the...The adjusted mid-market price is defined as the middle (Le. the average) between the bid price and the offer price. As discussed above, the Black.-Scholes model provides one price that may be referred to as theoretical mid-market price or theoretical value (TV). The adjusted mid-market price provided by the present invention may be regarded as an adjustment to the Black-Scholes price. Thus the adjusted

mid-market price of the present
12
invention may also be referred to as the corrected theoretical value (CTV). lt should...

...of mid-market price as a reference for the computations is preferred simply because existing theoretical models for calculating prices of options, such as the Black Scholes model, are typically intended for calculating theoretical mid-market values.

The bid/offer spread, computed according to the preferred embodiment, reflects the lo risk that...

...Fig. 1, at stage 1 1 0 the model calculates a theoretical value (TV) using a combination of known algorithms, e.g., based on the Black-Scholes model, or any model assuming that spot undergoes a Brownian motion pattern. This initial TV may be computed in an analytical method or using numerical calculations, as are Icnown in the art. The Black-Scholes model is used in an exemplary embodiment because (inverted exclamation mark)t is a conunon benclunark in the industry for pricing derivatives in cases where the underly(inverted exclamation mark)ng asset is assumed to follow a Brownian motion (a stochastic process). The inputs for the TV may include expiration date, class of the option, e.g., knock out, knock in, binary, European digital, etc., strilce...The market information is based on assets that are continuous1y traded in the market and their prices are available in different forms. For example, the inputs may be based on information taken firom screens of market data provided by companies such as REUTERS, Bloomberg, Telerate, etc., and/or direct1y from brokers, e.g., over the telephone.

14
Block 14 indicates the computation of the theoretical value (TV) of the option being priced. The algoritInn for computing the TV may be based on Black-Scholes or similar models consisting of analytic fonnulas as are known in the art. In some cases, for example, when computing double knock-out options, the...Vanilla opfion with the same strike. TM(exot(inverted exclamation mark)c) is the theoretical value of the original exotic option as calculated by the Black-Scholes model. TV(Vanilla) is the theoretical value of the corresponding Vanilla option, Le. the option with the same parameters except for the triggers.

Ratio(TV...

...spot level when time to maturity is long. In reality, the probability for a far knock out is generally higher than that anticipated by the Black-Scholes formula. This is part of the reason for the decay of most of the factors with time to maturity beyond a certain level. This type...a correct adjusted mid-market price for the exemplary options computed. lt is also evident firom Table 1 that the TV calculated based on the Black-Scholes model does not yield correct results.

Referring to Example 1 in Table 1, the option traded on February 12, 1999, has an expiration date of...

...114.40, the volatility for this option is 17.35, the forward for this option is 86, the theoretical value (TV) calculated based on the Black-Scholes model is 0.38, and the corresponding Vanilla option price and bid/offer spread are 2.7 and 0.25, respectively. Table 1 also presents...

```
? show files;ds
File  34:SciSearch(R) Cited Ref Sci 1990-2009/Nov W1
         (c) 2009 The Thomson Corp
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 2006 The Thomson Corp

Set     Items   Description
S1          2   AU='SIMONATO JG'
S2        226   BLACK(1N)SCHOLES/DE
S3         36   S2 AND OPTIONS/DE
S4         17   S3 NOT PY>2004
? t4/3,k/all

 4/3,K/1     (Item 1 from file: 34)
DIALOG(R)File  34:SciSearch(R) Cited Ref Sci
(c) 2009 The Thomson Corp. All rts. reserv.

13061598   Genuine Article#: 845GQ   No. References: 16
Title: Pricing a nontradeable asset and its derivatives
Author: Luenberger DG  (REPRINT)
Corporate Source: Stanford Univ,Dept Management Sci &
    Engn,Stanford//CA/94305 (REPRINT); Stanford Univ,Dept Management Sci &
    Engn,Stanford//CA/94305
Journal: JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS, 2004, V121, N3 (
    JUN), P465-487
ISSN: 0022-3239   Publication Date: 20040600
Publisher: KLUWER ACADEMIC/PLENUM PUBL, 233 SPRING ST, NEW YORK, NY 10013
    USA
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: options ; pricing ; real options ; Black-
    Scholes methodology ; nontradeable assets ; replication ;
    risk-neutral processes


 4/3,K/2     (Item 2 from file: 34)
DIALOG(R)File  34:SciSearch(R) Cited Ref Sci
(c) 2009 The Thomson Corp. All rts. reserv.

13020555   Genuine Article#: 839TV   No. References: 25
Title: Using meshfree approximation for multi-asset American options
Author: Fasshauer GE (REPRINT) ; Khaliq AQM; Voss DA
Author Email Address: fass@amadeus.math.iit.edu
Corporate Source: IIT,Dept Appl Math,Chicago//IL/60616 (REPRINT); IIT,Dept
    Appl Math,Chicago//IL/60616; Knox Coll,Dept Math,Calesburg//IL/61401;
    Western Illinois Univ,Dept Math,Macomb//IL/61455
Journal: JOURNAL OF THE CHINESE INSTITUTE OF ENGINEERS, 2004, V27, N4 (JUL)
, P563-571
ISSN: 0253-3839   Publication Date: 20040700
Publisher: CHINESE INST ENGINEERS, #1, 4TH FL, SEC 2, JEN-AI RD, TAIPEI
    10019, TAIWAN
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: meshfree approximation ; radial basis functions ;
    multi-assets ; American options ; Black Scholes ;
    penalty method
```

4/3,K/3   (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

12891337   Genuine Article#: 830YD   No. References: 13
Title: Estimation of the option prime: Microsimulation of backward stochastic differential equations
Author: Allende H (REPRINT) ; Elias C; Torres S
Corporate Source: Federico Santa Maria Tech Univ,Dept Informat,Valparaiso//Chile/ (REPRINT); Federico Santa Maria Tech Univ,Dept Informat,Valparaiso//Chile/; Adolfo Ibanez Univ,Fac Sci & Technol,Vina Del Mar//Chile/; Valparaiso Univ,Dept Stat,Valparaiso//Chile/
Journal: INTERNATIONAL STATISTICAL REVIEW, 2004, V72, N1 (APR), P107-121
ISSN: 0306-7734   Publication Date: 20040400
Publisher: INT STATISTICAL INST, 428 PRINSES BEATRIXLAAN, 2270 AZ VOORBURG, NETHERLANDS
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: Black-Scholes model ; stochastic differential equations ; options prime ; hedging strategy

4/3,K/4   (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

12675437   Genuine Article#: 810PP   No. References: 15
Title: Generalized trapezoidal formulas for valuing American options
Author: Chawla MM (REPRINT) ; Al-Zanaidi MA; Evans DJ
Corporate Source: Kuwait Univ,Dept Math & Comp Sci,POB 5969/Safat 13060//Kuwait/ (REPRINT); Kuwait Univ,Dept Math & Comp Sci,Safat 13060//Kuwait/; Nottingham Trent Univ,Fac Engn & Comp,Nottingham NG1 4BU//England/
Journal: INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, 2004, V81, N3 (MAR), P375-381
ISSN: 0020-7160   Publication Date: 20040300
Publisher: TAYLOR & FRANCIS LTD, 4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: American options ; Black-Scholes equation ; linear complementarity problem ; Crank-Nicolson ; generalized trapezoidal formulas

4/3,K/5   (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

12403877   Genuine Article#: 762NC   No. References: 20
Title: Complete-market models of stochastic volatility
Author: Davis MHA (REPRINT)
Corporate Source: Univ London Imperial Coll Sci Technol & Med,Dept Math,S

Kensington Campus/London SW7 2AZ//England/ (REPRINT); Univ London Imperial Coll Sci Technol & Med,Dept Math,London SW7 2AZ//England/
Journal: PROCEEDINGS OF THE ROYAL SOCIETY OF LONDON SERIES A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES, 2004, V460, N2041 (JAN 8), P11-26
ISSN: 1364-5021 Publication Date: 20040108
Publisher: ROYAL SOC LONDON, 6 CARLTON HOUSE TERRACE, LONDON SW1Y 5AG, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: financial options ; Black-Scholes ; volatility ; vega hedging ; stochastic flows ; Bismut formula

4/3,K/6 (Item 6 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

12310186 Genuine Article#: 752GC No. References: 9
Title: Generalized trapezoidal formulas for the Black-Scholes equation of option pricing
Author: Chawla MM (REPRINT) ; Al-Zanaidi MA; Evans DJ
Corporate Source: Kuwait Univ,Dept Math & Comp Sci,POB 5969/Safat 13060//Kuwait/ (REPRINT); Kuwait Univ,Dept Math & Comp Sci,Safat 13060//Kuwait/; Nottingham Trent Univ,Fac Engn & Comp,Nottingham NG1 4BU//England/
Journal: INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, 2003, V80, N12 (DEC), P1521-1526
ISSN: 0020-7160 Publication Date: 20031200
Publisher: TAYLOR & FRANCIS LTD, 4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: Black-Scholes equation ; option pricing ; European options ; Crank-Nicolson scheme ; generalized trapezoidal formula schemes ; unconditional stability

4/3,K/7 (Item 7 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

11904987 Genuine Article#: 707XR No. References: 31
Title: A semilinear Black and Scholes partial differential equation for valuing American options
Author: Benth FE (REPRINT) ; Karlsen KH; Reikvam K
Corporate Source: Univ Oslo,Dept Math,POB 1053,Blindern/N-0316 Oslo//Norway/ (REPRINT); Univ Oslo,Dept Math,N-0316 Oslo//Norway/; Univ Bergen,Dept Math,N-5008 Bergen//Norway/
Journal: FINANCE AND STOCHASTICS, 2003, V7, N3 (JUL), P277-298
ISSN: 0949-2984 Publication Date: 20030700
Publisher: SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN, GERMANY
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: American options ; semilinear Black and Scholes partial differential ; equation ; viscosity solution ;

existence ; comparison result ; uniqueness

4/3,K/8 (Item 8 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

11862495 Genuine Article#: BX11W No. References: 17
Title: A fourth order L-stable method for the Black-Scholesmodel with
barrier options
Author: Voss DA (REPRINT) ; Khaliq AQM; Kazmi SHK; He H
Corporate Source: Western Illinois Univ,Dept Math,Macomb//IL/61455
(REPRINT); Western Illinois Univ,Dept Math,Macomb//IL/61455
, 2003, V2669, P199-207
ISSN: 0302-9743 Publication Date: 20030000
Publisher: SPRINGER-VERLAG BERLIN, HEIDELBERGER PLATZ 3, D-14197 BERLIN,
GERMANYCOMPUTATIONAL SCIENCE AND ITS APPLICATIONS - ICCA 2003, PT 3,
PROCEEDINGS
Series: LECTURE NOTES IN COMPUTER SCIENCE
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: Black-Scholes PDE ; barrier options ;
L-stability ; parallelism

4/3,K/9 (Item 9 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

11322072 Genuine Article#: 635TZ No. References: 15
Title: A new numerical method on American option pricing
Author: Gu YG; Shu JW (REPRINT) ; Deng XT; Zheng WM
Corporate Source: Hunan Normal Univ,Dept Math,Changsha 410081//Peoples R
China/ (REPRINT); Hunan Normal Univ,Dept Math,Changsha 410081//Peoples
R China/; Chinese Acad Sci,Inst Syst Sci,Beijing 100080//Peoples R
China/; Tsing Hua Univ,Dept Comp Sci & Technol,Beijing 100084//Peoples
R China/; City Univ Hong Kong,Dept Comp Sci,Hong Kong/Hong Kong/Peoples
R China/
Journal: SCIENCE IN CHINA SERIES F, 2002, V45, N3 (JUN), P181-188
ISSN: 1009-2757 Publication Date: 20020600
Publisher: SCIENCE CHINA PRESS, 16 DONGHUANGCHENGGEN NORTH ST, BEIJING
100717, PEOPLES R CHINA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: American options ; free boundary ; analytic method of
line ; finite difference method ; Black-Scholes equation

4/3,K/10 (Item 10 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

10184122 Genuine Article#: 493ZY No. References: 11
Title: Some optimal stopping problems with nontrivial boundaries for
pricing exotic options
Author: Guo X (REPRINT) ; Shepp L

Corporate Source: IBM Corp,Thomas J Watson Res Ctr,POB 218/Yorktown
Hts//NY/10598 (REPRINT); IBM Corp,Thomas J Watson Res Ctr,Yorktown
Hts//NY/10598; Rutgers State Univ,Dept Stat,Piscataway//NJ/08854
Journal: JOURNAL OF APPLIED PROBABILITY, 2001, V38, N3 (SEP), P647-658
ISSN: 0021-9002   Publication Date: 20010900
Publisher: APPLIED PROBABILITY TRUST, THE UNIVERSITY, SCHOOL MATHEMATICS
STATISTICS, SHEFFIELD S3 7RH, ENGLAND
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: lookback options ; Black-Scholes model ;
optimal stopping ; Bellman equation ; free boundary

4/3,K/11   (Item 11 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09394641   Genuine Article#: 401KJ   No. References: 4
Title: American prices embedded in European prices
Author: Jourdain B (REPRINT) ; Martini C
Corporate Source: CERMICS,ENPC,6-8 Av Blaise Pascal,Cite Descartes/F-77455
Marne La Vallee 2//France/ (REPRINT); CERMICS,ENPC,F-77455 Marne La
Vallee 2//France/; Inst Natl Rech Informat & Automat,Project
Math,F-78153 Le Chesnay//France/
Journal: ANNALES DE L INSTITUT HENRI POINCARE-ANALYSE NON LINEAIRE, 2001, V
18, N1 (JAN-FEB), P1-17
ISSN: 0294-1449   Publication Date: 20010100
Publisher: GAUTHIER-VILLARS/EDITIONS ELSEVIER, 23 RUE LINOIS, 75015 PARIS,
FRANCE
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: optimal stopping ; free boundary problems ; martingales ;
Black-Scholes model ; European options ; American
options

4/3,K/12   (Item 12 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09376513   Genuine Article#: 398WQ   No. References: 30
Title: Corridor options and arc-sine law
Author: Fusai G (REPRINT)
Corporate Source: Univ Florence,Dept Math Decis Theory,Via Cesare Lombroso
6-17/I-50134 Florence//Italy/ (REPRINT); Univ Florence,Dept Math Decis
Theory,I-50134 Florence//Italy/
Journal: ANNALS OF APPLIED PROBABILITY, 2000, V10, N2 (MAY), P634-663
ISSN: 1050-5164   Publication Date: 20000500
Publisher: INST MATHEMATICAL STATISTICS, IMS BUSINESS OFFICE-SUITE 7, 3401
INVESTMENT BLVD, HAYWARD, CA 94545 USA
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: options ; Black-Scholes ; Feynman-Kac
formula ; arc-sine law ; occupation time of the Brownian motion ;
integral equations ; Laplace transform ; numerical transform inversion

4/3,K/13 (Item 13 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09098606 Genuine Article#: 367AN No. References: 16
Title: The trade-offs between alternative finite difference techniques used
to price derivative securities
Author: Buetow GW; Sochacki JS (REPRINT)
Corporate Source: JAMES MADISON UNIV,DEPT FINANCE, ZANE SHOWKER
HALL/HARRISONBURG//VA/22801 (REPRINT); JAMES MADISON UNIV,DEPT
FINANCE/HARRISONBURG//VA/22801; JAMES MADISON UNIV,DEPT
MATH/HARRISONBURG//VA/22801
Journal: APPLIED MATHEMATICS AND COMPUTATION, 2000, V115, N2-3 (OCT 27), P
177-190
ISSN: 0096-3003 Publication Date: 20001027
Publisher: ELSEVIER SCIENCE INC, 655 AVENUE OF THE AMERICAS, NEW YORK, NY
10010
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: finite-difference methods ; options pricing methods ;
Black-Scholes model

4/3,K/14 (Item 14 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

08784336 Genuine Article#: 328MA No. References: 25
Title: Justifying electronic banking network expansion using real options
analysis
Author: Benaroch M (REPRINT) ; Kauffman RJ
Corporate Source: SYRACUSE UNIV,SCH MANAGEMENT/SYRACUSE//NY/13244 (REPRINT)
; UNIV MINNESOTA,CARLSON SCH MANAGEMENT/MINNEAPOLIS//MN/55455
Journal: MIS QUARTERLY, 2000, V24, N2 (JUN), P197-225
ISSN: 0276-7783 Publication Date: 20000600
Publisher: SOC INFORM MANAGE-MIS RES CENT, UNIV MINNESOTA-SCH MANAGEMENT
271 19TH AVE SOUTH, MINNEAPOLIS, MN 55455
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Descriptors: Black-Scholes model ; investment decision
making under uncertainty ; electronic banking networks ; POS debit
systems ; project investments ; IT investment evaluation ; option
pricing models ; real options

4/3,K/15 (Item 15 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

08012504 Genuine Article#: 236JM No. References: 43
Title: Predictability and unpredictability in financial markets
Author: LiptonLifschitz A (REPRINT)
Corporate Source: BANKERS TRUST CO,GLOBAL ANALYT, MS2361, 130 LIBERTY
ST/NEW YORK//NY/10006 (REPRINT); UNIV ILLINOIS,DEPT
MATH/CHICAGO//IL/60607

Journal: PHYSICA D, 1999, V133, N1-4 (SEP 10), P321-347
ISSN: 0167-2789   Publication Date: 19990910
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: stochastic differential equations ; parabolic equations ;
    Black-Scholes pricing ; hedging ; exotic options

4/3,K/16   (Item 16 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

06797991   Genuine Article#: ZT523   No. References: 12
Title: An actuarial approach to option pricing under the physical measure
    and without market assumptions
Author: Bladt M (REPRINT) ; Rydberg TH
Corporate Source: UNIV NACL AUTONOMA MEXICO,DEPT STAT, IIMAS, AP
    20-726/MEXICO CITY 01000/DF/MEXICO/ (REPRINT); AARHUS UNIV,DEPT THEORET
    STAT/DK-8000 AARHUS C//DENMARK/
Journal: INSURANCE MATHEMATICS & ECONOMICS, 1998, V22, N1 (MAY 15), P65-73
ISSN: 0167-6687   Publication Date: 19980515
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English   Document Type: ARTICLE   (ABSTRACT AVAILABLE)

...Descriptors: American options ; Black and Scholes
    formula ; binomial model ; European options ; fair premium ; levy
    processes ; stochastic discounting

4/3,K/17   (Item 17 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04143489   Genuine Article#: RH528   No. References: 31
Title: TOWARD THE THEORY OF PRICING OF OPTIONS OF BOTH EUROPEAN AND
    AMERICAN TYPES .2. CONTINUOUS-TIME
Author: SHIRYAEV AN; KABANOV YM; KRAMKOV DO; MELNIKOV AV
Corporate Source: VA STEKLOV MATH INST/MOSCOW 117966//RUSSIA/; MOSCOW CENT
    ECON & MATH INST/MOSCOW 117418//RUSSIA/
Journal: THEORY OF PROBABILITY AND ITS APPLICATIONS, 1995, V39, N1, P61-102
ISSN: 0040-585X
Language: ENGLISH   Document Type: ARTICLE   (Abstract Available)

...Descriptors: RISKY AND RISKLESS SECURITIES ; OPTIONS ; HEDGING
    STRATEGIES ; GEOMETRIC (ECONOMIC) BROWNIAN MOTION ; STANDARD AND EXOTIC
    OPTIONS ; BLACK-SCHOLES FORMULA ; PUT-CALL PARITY ;
    MARTINGALE AND DUAL MARTINGALE MEASURES

IV. Text Search Results from Dialog

A. Abstract Databases

```
? show files;ds
File 350:Derwent WPIX 1963-2009/UD=200971
         (c) 2009 Thomson Reuters
File 344:Chinese Patents Abs Jan 1985-2006/Jan
         (c) 2006 European Patent Office
File 347:JAPIO Dec 1976-2009/Jul(Updated 091030)
         (c) 2009 JPO & JAPIO
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.
File   2:INSPEC 1898-2009/Nov W1
         (c) 2009 The IET
File  35:Dissertation Abs Online 1861-2009/Sep
         (c) 2009 ProQuest Info&Learning
File  65:Inside Conferences 1993-2009/Nov 06
         (c) 2009 BLDSC all rts. reserv.
File  99:Wilson Appl. Sci & Tech Abs 1983-2009/Oct
         (c) 2009 The HW Wilson Co.
File 256:TecTrends 1982-2009/Nov W1
         (c) 2009 Info.Sources Inc. All rights res.
File 474:New York Times Abs 1969-2009/Nov 07
         (c) 2009 The New York Times
File 475:Wall Street Journal Abs 1973-2009/Nov 07
         (c) 2009 The New York Times
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 Gale/Cengage
File  23:CSA Technology Research Database 1963-2009/Oct
         (c) 2009 CSA.
File  56:Computer and Information Systems Abstracts 1966-2009/Oct
         (c) 2009 CSA.
File 139:EconLit 1969-2009/Oct
         (c) 2009 American Economic Association
File 239:Mathsci 1940-2009/Nov
         (c) 2009 American Mathematical Society

Set     Items   Description
S1          0   (PRICING OR COMPUTE OR COMPUTES OR COMPUTING OR CALCULAT? -
             OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND? OR GAUG??? OR I-
             DENTIFY??? OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATI-
             CAL?)(3W)(VALUATION)(6N)(OPTION(2W)DERIVATIVE? ? OR STRADDLE?
             ?)
S2          1   (PRICING OR COMPUTE OR COMPUTES OR COMPUTING OR CALCULAT? -
             OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND? OR IDENTIFY??? -
             OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATICAL?)(3W)(V-
             ALUATION OR NET()PRESENT()(VALUE? ? OR VALUATION? ? OR NPV))(-
             10N)(OPTION(2W)DERIVATIVE? ? OR STRADDLE? ?)
S3       3247   (CALCULAT??? OR FIGUR??? OR COMPUTE OR COMPUTES OR COMPUTI-
             NG OR QUANTIF? OR DETERMIN? OR ESTIMAT? OR FIND??? OR IDENTIF-
             Y??? OR COMPUTED OR ALGORITHM? OR FORMULA? OR MATHEMATICAL?)(-
             8N)((FIRST OR 1ST OR INITIAL OR PRIMARY)(2W)MOMENT OR (SECOND
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            OR 2ND OR SECONDARY)(2W)MOMENT)
S4      38094   NPV OR (NET OR PRESENT)(2N)(VALUE OR VALUATION OR WORTH OR
            VALUES)
S5     486090   BLACK(3N)SCHOLES OR STOCHASTIC?
S6        224   (RISKLESS OR RISK()FREE OR "NO"()RISK OR SAFE OR PROTECTED
            OR SECURE OR FROZEN OR LOCKED()IN OR FIXED)(2W)(INTEREST()RAT-
            E? ? OR FEE OR FEES)(S)(DIVIDEND OR PAYMENT? ?)
S7        164   INPUTS(10N)(CONTRACT OR MARKET OR EVALUATION)(2W)(DATA OR -
            INFORMATION OR DETAILS)
S8          0   S3 AND (S5 OR S6) AND S7
S9        331   S3 AND (S5 OR S6)
S10         1   S4 AND S9
S11         2   (S5 OR S6) AND S7
S12         3   S2 OR S10 OR S11
? t12/3,k/all
```

12/3,K/1   (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

0015351723 - Drawing available
WPI ACC NO: 2005-701983/200572
Related WPI Acc No: 2005-701988
XRPX Acc No: N2005-576054
Method for calculating net present value of average spot basket option, involves applying Black-Scholes formalism to calculated moments of sum of spot values for all assets of basket, to determine net present value
Patent Assignee: POETZSCH R H H (POET-I)
Inventor: POETZSCH R H H
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20050222934	A1	20051006	US 2004812055	A	20040330	200572	B

Priority Applications (no., kind, date): US 2004812055 A 20040330

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20050222934	A1	EN	16	5	

Method for calculating net present value of average spot basket option, involves applying Black-Scholes formalism to calculated moments of sum of spot values for all assets of basket, to determine net present value

Alerting Abstract ...NOVELTY - The first and second moments of the sum of spot values for all assets of basket are calculated. The Black-Scholes formalism is applied to the calculated moments, to determine the net present value of the average spot basket options.
DESCRIPTION - An INDEPENDENT CLAIM is also included for system for calculating net present value of average spot basket option...

...USE - For calculating net present value (NPV) of average spot basket option for derivative pricing of assets...

...DESCRIPTION OF DRAWINGS - The figure shows a table illustrating the
results of determination of the NPV.

Original Publication Data by Authority
Argentina

Assignee name & address:
Original Abstracts:
A method and system of calculating a net present value of
an average spot basket option is provided. The method
includes calculating a first and second moment
of a sum of spot values of all underlyings of a basket
and applying a Black-Scholes formalism to the first
and second moments to determine the net present value of
an average spot basket option. The method further
includes calculating a modified forward spot, a modified strike value, and
first and second modified normal distribution functions for application in
the Black-Scholes formalism. A system in accordance
with the invention includes a memory that stores data that is exercised in
connection with determining the net present value, a
processor that executes code to determine the net
present value in accordance with the a first
and second moment of the sum of spot values of all underlyings
of a basket and the application of a Black-Scholes formalism to
the first and second moments to determine the net
present value of the average spot basket
option.
Claims:
1. A method of calculating a net present value of
an average spot basket option, comprising:
calculating a first moment of a sum of spot
values Sj(ti) of all underlyings of a basket;calculating a
second moment of the sum of spot values Sj(ti) of all
underlyings of the basket, wherein the first and second
moments are approximate log normal distributions; andapplying a Black
-Scholes formalism to the first and second moments to determine the
net present value of an average spot basket option.

12/3,K/2   (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01694954 ORDER NO: AAD99-21891
DATA ENVELOPMENT ANALYSIS: A STATISTICAL TEST OF EFFICIENCY UNDER
HETEROGENEOUS ERROR (STOCHASTIC)
  Author: SEIPEL, SCOTT JOHN
  Degree: PH.D.
  Year: 1998
  Corporate Source/Institution: THE UNIVERSITY OF TEXAS AT ARLINGTON (2502
)
  Source: VOLUME 60/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
  PAGE 1152. 184 PAGES

DATA ENVELOPMENT ANALYSIS: A STATISTICAL TEST OF EFFICIENCY UNDER

HETEROGENEOUS ERROR (STOCHASTIC)

...the years, researchers have studied ways to measure the efficiency of an organization. Many of the proposed solutions fail to incorporate multiple outputs and multiple inputs into the evaluation. Data envelopment analysis (DEA) provides an answer to this deficiency. To date, more than 1,000 articles in the literature deal with DEA and its application...
...nonparametric nature; no mathematical model is specified for the optimal output for given input. A weakness of data envelopment analysis is the failure to incorporate stochastic aspects of the data into the measure of efficiency. To date, no consistent solutions has been proposed to incorporate statistical noise without imposing a functional...

12/3,K/3 (Item 1 from file: 139)
DIALOG(R)File 139:EconLit

381670
TITLE: Risk-Taking, Global Diversification, and Growth
AUTHOR(S): Obstfeld, Maurice
AUTHOR(S) AFFILIATION: U CA, Berkeley
JOURNAL NAME: American Economic Review,
JOURNAL VOLUME & ISSUE: 84 5,
PAGES: 1310-29
PUBLICATION DATE: 1994
LANGUAGE: English
AVAILABILTY: http://www.aeaweb.org/aer/
ISSN: 0002-8282
DOCUMENT TYPE: Journal Article
ABSTRACT INDICATOR: Abstract

ABSTRACT: This paper develops a continuous-time stochastic model in which international risk-sharing can yield substantial welfare gains through its effect on expected consumption growth. The mechanism linking global diversification to growth...

... these two types of capital captures the idea that growth depends on the availability of an ever-increasing array of specialized, hence inherently risky, production inputs. Calibration exercises using consumption and stock-market data imply that most countries reap large steady-state welfare gains from global financial integration.

V. Additional Resources Searched

ProQuest, EBSCOhost, JSTOR